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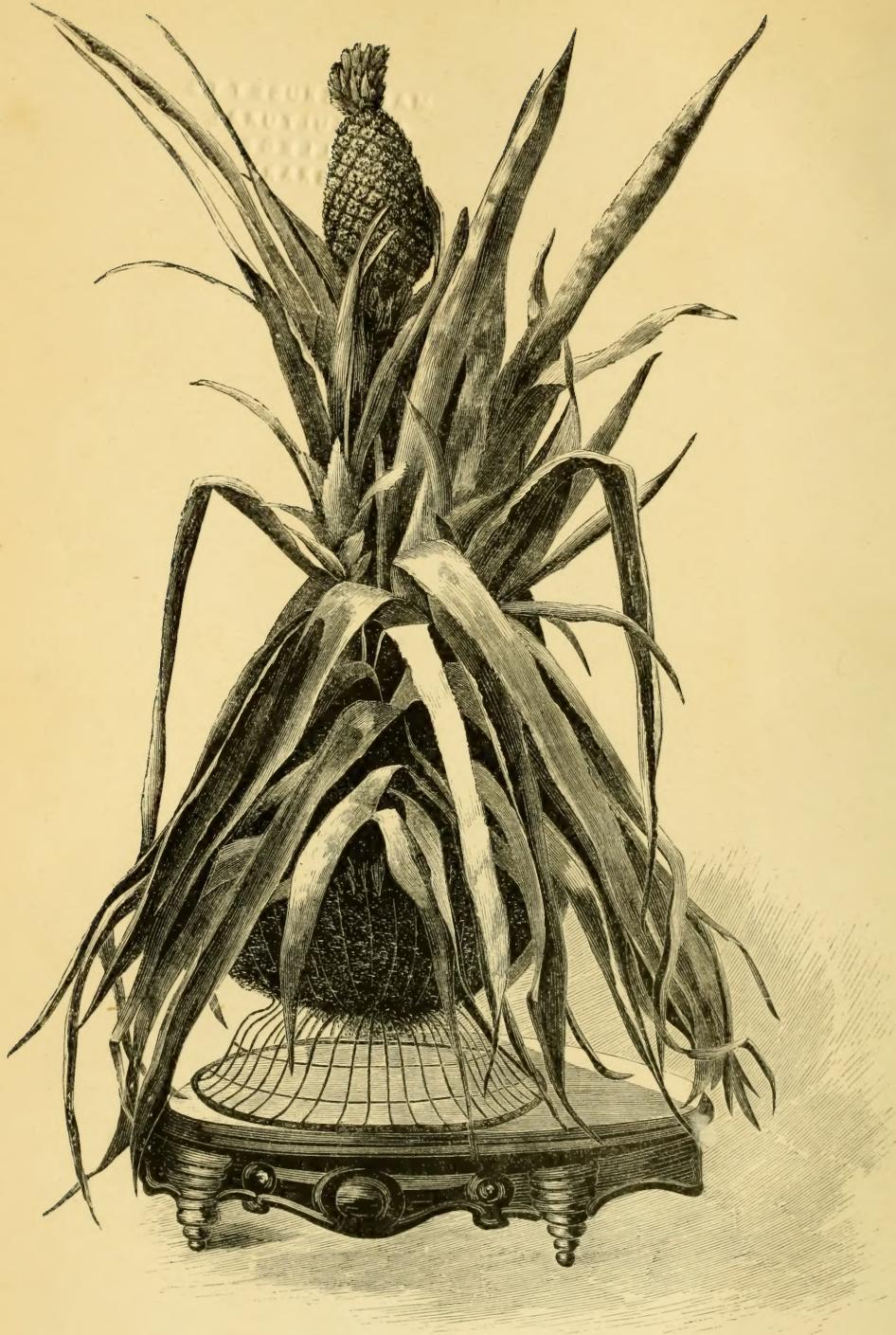
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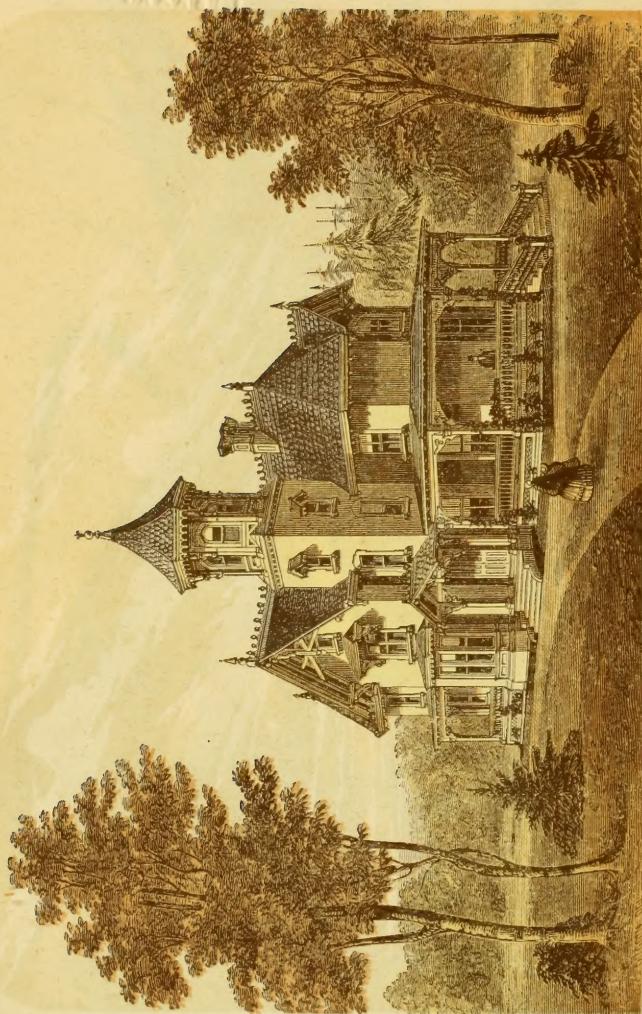


ANTWERP PINE APPLE, grown in a Moss Basket.

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CHAS. L. DODGE,  
ARTIST,  
NEW YORK.



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# THE FARMER'S JOURNAL

AND

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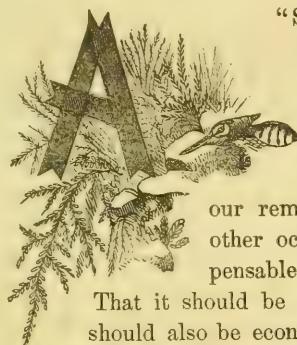
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Hints on Grape Culture.—XI.



"SUBSCRIBER" would like to hear something now about the kind of stakes to be used in the vineyard, so that he may be getting them out during the winter. Our own thoughts had been running that way, and the present would not be an inopportune moment to say something on the subject. We shall confine our remarks to the vineyard, leaving the garden, etc., to another occasion. Some kind of support for the vine is indispensable, though precisely what is the best all are not agreed.

That it should be of some durable material is very desirable; that it should also be economical, is equally desirable. Without some kind of support, no good system of training can be successfully carried out, for the vine will not support itself; and to let it trail on the ground would simply be to sacrifice both vine and fruit. The cost of stakes or a trellis, it must be acknowledged, forms a no inconsiderable item of expense in grape culture, but one which can not be avoided. There are two kinds of support in common use for the vineyard, the *stake* and the *trellis*, and these are the only ones which need claim our attention at present. Others are used in Europe, and in a few places here on a small scale, but few of them are adapted to general use, and they are in all respects inferior to those we have named. The trellis, though more costly than stakes, is more durable, and much to be preferred, since it is adapted to all good systems of training. Stakes, on the contrary, are only adapted to peculiar modes of training; they could not be used, for instance, in any of the single or double arm systems, except a short arm renewal system which we shall describe hereafter. A

combination of the stake and trellis, however, is well adapted to some special modes. The system of training ought to be decided on before determining whether to adopt the stake or the trellis. We have no hesitation in stating our decided preference for the trellis for most systems of training.

Let us now see which is the best form of trellis. The post and wire trellis will undoubtedly in the end be found the most durable and economical. Some use narrow wooden slats instead of wire; but these last a comparatively brief time, are always out of repair, and are therefore not to be commended. Others, again, have wooden slats nailed horizontally to the top and bottom of the posts, the slats being connected by upright wires. This form possesses some conveniences in the facilities it affords for tying up and training the growing shoots; but there are serious objections to it, the principal of which are, its inherent weakness, and the liability of the slats to be broken: the annual repairs necessary on a trellis of this kind make it a dear one. The best form of trellis, on the whole, is upright posts with horizontal wires. The posts may be of cedar, yellow locust, or chestnut, according as these abound in the locality or may be purchased cheapest. The cost of yellow locust, however, is generally too much to admit of its use in the vineyard. Red cedar may in some places be had for the mere cutting and hauling. Chestnut, however, is usually most available, and in all respects makes a good and durable post. The posts need not exceed five inches in diameter; when too large they give the vineyard a clumsy and awkward appearance, and accomplish no good purpose by their large size. Neatness should always be aimed at; it is indicative of a man's tastes and habits of life. The posts should be put at least two feet and a half in the ground; three would be better, the leverage being great when the trellis is covered with vines and acted on by heavy winds. They should be some six or seven feet out of the ground, but not more. If put in the ground in their natural state, the ends will in time rot off; to preserve them, therefore, as long as possible, they should be submitted to some kind of preparation before being set. A variety of applications have been recommended for this purpose. Kyanizing is no doubt one of the best, so far as mere preservation is concerned. Charring the ends will add materially to their durability, if carefully done. A very good plan is to soak the portion to be put in the ground in boiling oil, pitch, or coal tar. Solutions of several kinds of salts are also found to be good, one of the best being sulphate of copper, in the proportion of about one pound of sulphate to one hundred pounds of water. In this case the posts are dried, and the ends placed in the solution, where they are left for several days, when the whole post becomes saturated, and its durability in consequence very greatly increased. Stakes and posts of all kinds to be put in the ground should be treated in some of these modes.

Having prepared the posts, it is next necessary to determine the distance at which they shall be placed. If the vines are planted four or six feet apart in the rows, the posts should be set twelve feet apart; if the vines are planted five feet

apart, the posts should be ten or fifteen feet apart, the object being to get the posts midway between two vines. These distances may be increased, provided a light stake be put between the posts. The faces of the posts, or the sides to receive the wires, should line as accurately as possible. In setting, the end posts should be braced; this is done in various ways, some of them clumsy enough, and quite inefficient. It is usual to sink the brace in the ground on the inside of the posts; and this is a good plan. Whatever mode be adopted, the great point to be secured, strength, must not be lost sight of.

A few words may be added in regard to the wires. No. 10 wire is sufficiently large for general purposes; indeed, a smaller size than this will answer a good purpose. The bottom wire, however, on which arms are to be formed, should be stouter than the upper wires. The wires may be run from twelve to eighteen inches apart, and fastened by a loop to the end posts; to the intermediate posts it may be attached by hooks or screws. It is desirable, and even necessary, to tighten the wires at times, and it is always best to loosen them during the winter, whether the vines are laid down or not; for a vine that sways loosely in the wind never suffers as much during winter as one that is immovably secured. There are numerous devices that may be used for tightening the wires, one of the simplest and cheapest being the screw stiffener now used in the common buck-saw. If the wires are very long, they should be looped to the middle as well as the end posts. The wire used in the vineyard should in all cases be annealed. The toughness of the wire is not impaired by the process, but it is rendered more pliable and durable, and protected from the action of the oxygen in the atmosphere. To protect it from oxydizing, wire is also galvanized; but this is costly, and not as good for the vineyard. Painted wire will last longer in the vineyard than that which is galvanized.

Something may now be said about stakes. These, to enhance their durability, should be treated to one of the preparations recommended for the posts. Stakes, as a general thing, are best made from red cedars, about the size of a stout bean pole. How many will be necessary, as well as the distances at which to place them, will depend upon the system of training adopted. We wish to drop a caution here against placing wooden stakes immediately in contact with the vines, if they are to remain there. The first year, and perhaps the second, it will be necessary to have a stake within two or three inches of the vine, to train the shoot to; but not longer. Wood, in decaying, often generates a fungus which is injurious to the vine; we have known many young vines (and old ones, too) to become almost incurably diseased by this cause alone. If the stakes are well charred, this objection will be done away with.

We have had our attention directed to iron trellises for the vineyard. They would be more durable, and much lighter than wood, but we fear their cost will be fatal to their general introduction. For a small, model vineyard, nothing could be neater or more desirable, unless some objection should be found to exist

in the action of heat and cold on the iron. The objection, so far as winter is concerned, could be got rid of by simply detaching the vines and laying them on the ground, where, covered by the snows of winter, they would be better off than on the trellis. In regard to the cost of an iron trellis, Mr. Davenport, of Stamford, Conn., who is skillful in wire work, thinks it can be put up as cheap as a good wood and wire trellis. We propose to reduce this to an actual test, since, if the cost is no greater, the iron would be much the best investment. Some of our readers might help us to a solution of this question. Our conviction, however, is, that iron posts can not be put up as cheap as wooden ones; but then there are compensating advantages which ought not to be overlooked in summing up the question. In some parts of the country, stone posts of a suitable length can be got at a small cost. Where this is the case, they should be used.

The trellis may be put up when the vineyard is formed, or it may be left till the fall of the second year, or the spring of the third. Where the means are at hand, it would, on some accounts, be best to put up the trellis at the end of the first year. The very small per centage of wear and tear for a couple of years, as it is commonly called, is nothing, compared with the advantage of having the early use of the trellis. What is saved in the labor of resetting stakes, training, etc., will pay this per centage twice over. Our advice, therefore, is, to make the trellis as soon as conveniently may be, but not to defer it beyond the second year; for if the vines have been well and carefully grown, they will at that time need the support of a trellis.

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#### LANDSCAPE ADORNMENT.—NO. XIX. “THE APPROACH.”

BY GEO. E. WOODWARD,

Civil Engineer and Architect, No. 29 Broadway, New York.

THE most prominent feature in the embellishment of a country estate, next to the mansion, is the approach, and, if of sufficient length, affords an opportunity for a display of engineering and artistic skill that no other specialty in rural improvement can equal. The approach-road is almost the first needed and most useful improvement, and from this fact is generally the soonest built, the least studied, and the least developed. All are willing to spend much time in selecting the true site for the house, and to call the best and most experienced talent to consult with, and yet hastily adopt a manner of approach that in some measure destroys the effect of that which is already good. It is quite as essential that the location of the approach-road be considered as that the house be well situated, or the general arrangement of the grounds convenient. The approach-road, as a general thing, admits of much variety in treatment, as it is not only a roadway

for practical purposes, but one from which the grounds and the house are to be displayed to the best possible advantage, appropriating that which is good, and avoiding that not worthy of notice.

In tracing its course through all the variety which such roads usually embrace, we shall find there is much more skill and taste requisite to make the most of every thing than is generally supposed.

There are very many good sound reasons why the curve line should be adopted in the location of an ornamental road, and the facility given to use all natural resources for its embellishment is a strong one in favor of its use in the approach; but an indiscriminate and injudicious use of the curved line would not be wise. It is possible to distort and misapply almost any thing of beauty, as objects beautiful in themselves may form a hideous combination.

It is hardly necessary to repeat again the old threadbare piece of advice, that no curve should be used without a reason, and if none exist, one must be created; this is pretty well understood by every one, and needs no further remark. With regard to the straight line, there are places where its use is the most preferable, but its general use is not consistent with natural landscape treatment. In approaching the house by the straight avenue, as was customary in the formal style, the view was that of an architectural elevation, showing one front of the house. In the natural style, the house should be approached so that it is viewed perspectively; then, if there is variety in its form, the lights and shadows, and the well-managed accessories, give an artistical effect, and it becomes a picture.

It is not the best management to show all the good things one has at once, but rather to hold out inducements to lead one on in the pursuit of new pleasures, to find a new view, or a pleasing surprise.

The graduation of an approach should be well studied, so that the least quantity of earth is removed and deep cuttings and embankments avoided. It is a skillful matter to find that medium line that lies between all extremes, and still more difficult to please the fancies of all one's friends; yet such a line can generally be found, that in its gradual ascent, economical construction, easy flowing curves, and captivating views, shall explain to one of tasteful appreciation the reason why it occupies the position that it does.

It must be considered that well-adjusted gradients mark a high class of road construction, not necessarily more expensive, but most frequently quite the reverse. Scientific road-construction is as much a matter of economy in the first cost as it is in the annual repair, and there is quite as much effect developed in ascent and descent as there is in direction; and as a needless curve appears badly, so does a needless grade. The surface should be hard and smooth, and the road constructed of the best materials that can be had, and there should be in all that appertains to it a very decided difference from the public highway.

The width of a road must be governed to some extent by its length, and by the manner in which it is proposed to be kept. A wide road in fine order expresses

an air of dignity and grandeur, yet, if too short, disappoints, because of the attempt to show what does not exist. As a general rule, the minimum width should be ten feet on approaches of moderate length, and increase in proportion to distance to 12, 14, 16, 18, or 20 feet wide. The chances of passing carriages on a road increase with its length, yet on one of 300 to 500 feet long it is rare, except on unusual occasions, for carriages to meet. A wide road implies frequent use, and therefore neglect would destroy its impressions; neatness and fine keeping are essential to its importance and effect.

As a general rule, there should be no deviation from the approach road before reaching the house; to a stranger there should be no doubt raised as to which should be the proper road for him to take; and whenever it becomes necessary to branch off for any purpose whatever, it ought to be at points from which the house is in sight, and the branch roads take such a direction at first as to lead one to suppose that the house could not be reached by them; they should also be inferior in width and character, and, as far as possible, so managed as not to be mistaken for the main road. It may be a question difficult to decide, whether it is proper to see the coach-house, or other out-buildings, from the approach; although we would prefer to see no inferior buildings prior to seeing the house; yet, if they must be so treated, they ought to come in sight together, and the coach-house, or other building, be beautiful in its architectural appearance; and let its architecture be truthful, that it be not mistaken for any thing but what it really is; then it becomes an object of admiration, and soon left for the grander proportions of the mansion, without a thought that it would be more proper if occupying a less prominent position. Considerable liberty may be taken with the location of an approach road, until that part of it is reached from which the house is visible; its general direction should then be towards the house, and not to pass it and return. A leading principle governing the location of an approach road is, that it is a road leading from the highway to the house, and that its course should be nearly direct, its entire alignment, graduation, construction, embellishment, &c., to be made with a view of developing a high order of beauty, usefulness, and effect, all of which is attainable at even less expense than in those locations which have little or no meaning, and which undervalue the true character of the landscape.



#### TSCHUODY'S HERBACEOUS GRAFTING (GREFFE HERBACEE) AGAIN.

BY HORTICOLA.

MANY readers of the HORTICULTURIST will be very thankful to Mr. Charles More for having called their attention to a mode of grafting so easy to perform,

and so certain of success. Having had an opportunity of trying it, I hope to be pardoned for introducing the same subject again.

Two years ago, in the month of June, I saw a friend of mine cutting down a grape vine an inch and a half thick, in order to graft it. I expressed my fear of the probable loss of so strong and beautiful a plant, recommending at the same time the grafting of one of its green shoots, the possibility of which my friend seemed to doubt. Although I had had no experience in herbaceous grafting, yet, more bold than considerate, I promised to show him that it could be done. What I knew of it was hardly more than I had picked up accidentally from hearsay. Still I undertook, immediately on my return home, to graft a scion of a tomato on a shoot of a potato vine growing in my garden. I cut about one third of the potato shoot off, just above a leaf, taking care not to injure the bud at its base. The tomato scion had two buds. The potato shoot was split about an inch long, the lower end of the scion cut in the form of a wedge, inserted, and tied with a piece of matting without the application of any wax. The scion, being shielded from the sun, was every day sprinkled with a little water, and took readily. In the fall the tomato was loaded with ripe and unripe fruit; it had grown to an enormous size. Not having removed any of the shoots of the potato vine, it yielded as many tubers as a vigorous potato plant will generally produce. The experiment excited more admiration than it deserved, from the fact that herbaceous grafting was unknown here. My friend was convinced, but failed in every attempt at grafting a green shoot of a grape vine into a green shoot of another, though undertaken in a viney.

Last spring I took home with me a lateral of the Golden Hamburgh grape, which had just been broken off. This was in the middle of June. I cut it into two scions of one eye each, and inserted them into the young shoots of Isabellas which had sprung up, the main stems having been winter killed, precisely in the same way pursued in grafting the tomato on the potato; that is, I cut off the shoot of the Isabella one third of its length from the top, etc. Still being very anxious to accomplish my object, I covered the plant thus grafted with a large bell-glass, shading it carefully till the incipient growth of the scion indicated that the union had taken place. The fifth day after the operation I removed the eye at the base of the first (top) leaf. Five days later I cut the discs of every leaf of the stock, so that nothing but the middle rib remained, removing at the same time their eyes also. Ten days after I repeated this latter operation, at which time I cut the leaf of the scion in the same manner in which I had cut the leaves of the stock ten days previous. A perfect union was effected in less than a month. It may be important to state here, that I left as long a piece of the shoot of the scion above its only bud as was possible. This piece was about an inch long; the cut for the wedge commenced about a quarter of an inch below the eye. To be accurate in every particular, I must also mention that I used instead of matting elastic woolen yarn, not too much twisted, for tying.

The laterals of the grafts were stopped at one leaf each time, as usual, to ob-

tain a single strong shoot. One of them had attained the height of four feet towards the close of August, when it was stopped to ripen its wood. The other, growing in a shady place, did not ripen much of its wood, so that I shall lose it during the winter, while I am confident that the first one will survive it, notwithstanding the impossibility of potting it, as intended, for reasons too irrelevant to be explained here.

Noisette, in his justly celebrated book on gardening, describes two modes of performing herbaceous grafting, the one for woody plants and trees, the other for herbaceous plants, such as the cucumber and the like. The latter is exactly identical with the method I pursued in grafting the tomato on the potato; the former prescribes the gradual removing of the eyes and the discs of the leaves, as practiced by me in grafting the grape vine; for I proceeded as he advises it. He cuts also the scion as I did, but his way of splitting the stock is entirely different. His way is the following: Towards the end of May the stock is cut below the third, fourth, or fifth leaf, counting them from the top downwards, so that a little stump is left (an inch or so long) above the next leaf and eye. By the *eye* is meant that one which is prominent; actually there are *three* of them, two hardly visible without a magnifier. The cut or split of the stock ought to be slanting, commencing about a quarter of an inch *above* the petiole of the leaf, and descending between the prominent and either of the two small eyes into the middle of the stock a little more than a quarter of an inch below. Consequently the whole length of the cut or split will be not quite three quarters of an inch long. Of course this depends wholly on circumstances.

That it is not necessary to be so particular in regard to this point, the success of my way of proceeding shows clearly. The stump above the only eye of the scion should be of the same length as that of the stock; and, if practicable, the plant should be covered with a bell-glass till it begins to grow.

In grafting evergreens, some care is required in the removing of the leaves. This article, however, is already so long, that it would be injudicious to make the slightest addition. In conclusion, I may perhaps be permitted to say, that Azaleas can also be easily grafted in the fork of two small diverging twigs, even if the scion should not be thicker than a knitting needle. This, I know very well, is not new, but it is eminently practical.

[We are under deep obligations to Horticola for having broken his long silence, and treating us to a subject so interesting to our readers. We will say here, that Horticola is not only a distinguished scholar, but a devoted and enthusiastic amateur and experimenter; our readers may expect to hear from him often. The present article will commend itself to our readers generally; we can imagine with what avidity it will be read by our friend El Medico. We have more in store for him, and others as devoted as he is. In making the slit in herbaceous grafting, the reader must understand that the eye in connection with it on the stock

must not be destroyed; this is of importance, especially in the grape vine. On this point Horticola has anticipated one of our Grape articles. The Grape vine may and should be grafted in this way earlier than mentioned by Horticola, and the ripening of the wood thereby insured. The reader will observe that Horticola performed the operation in June simply because he at that time came into possession of a valuable scion; he does not recommend grafting so late, though his case shows that it can be done thus late, and ripe wood secured. When a bell glass is not at hand, a good substitute may be made of oiled paper. Probably a good many of our readers will amuse themselves next summer by taking a crop of Potatoes and Tomatoes from one and the same plant: we can promise them that they will find the experiment a very interesting one.—ED.]

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THE FIG.—No. II.

BY R. S. S., SUNNYSIDE, N. J.

In point of historical interest, there is no fruit which claims higher regard than the Fig. It is of very great antiquity; a pomological noble, not a parvenu of recent birth and upstart pretensions. Its native habitat is Asia, where it is indigenous throughout the warm countries: perhaps its origin was in that garden which the curiosity of our first mother forfeited to her race. From Asia it was transplanted into Italy; and, as it is said, naturalized in France by the Greek colony which founded Marseilles, the ancient *Μασσαλία*, a celebrated colony of the Phocæans. This fruit seems to have been most highly prized by the Greeks, for we find that at Athens there was a law against the exportation of Figs. An informer against those who violated this law was termed *Συκοφάντης*, a detector of Figs; and hence our English word sycophant.

McIntosh thinks the Fig was introduced into England by the Romans almost coeval with the Christian era; but that it was lost until again introduced in 1525, when "Cardinal Pole brought from Italy those identical Fig-trees which still exist in the archbishopric gardens at Lambeth Palace; and (he adds) Dr. Pocock, the Oriental traveler, first brought the Fig to Oxford, and planted a tree in 1648 in Oxford College garden, of which tree the following anecdote is told: Dr. Kennicott, the celebrated Hebrew scholar and compiler of the Polyglot Bible, was passionately fond of this fruit, and seeing a very fine Fig on this tree that he wanted to preserve, wrote on a label, 'Dr. Kennicott's Fig,' which he tied to the fruit. An Oxonian wag, who had observed the transaction, watched the fruit daily, and when ripe gathered it, and exchanged the label for one thus worded: 'A Fig for Dr. Kennicott.'

At the present day the culture of the Fig is general throughout the southern part of Europe, and in southern France and Algeria. Its introduction into this

country is of quite recent date—at about the commencement of the nineteenth century.

Thus much is said of the Fig, to show the claim it has upon our attention, simply on the score of historical interest. Now to speak of it pomologically.

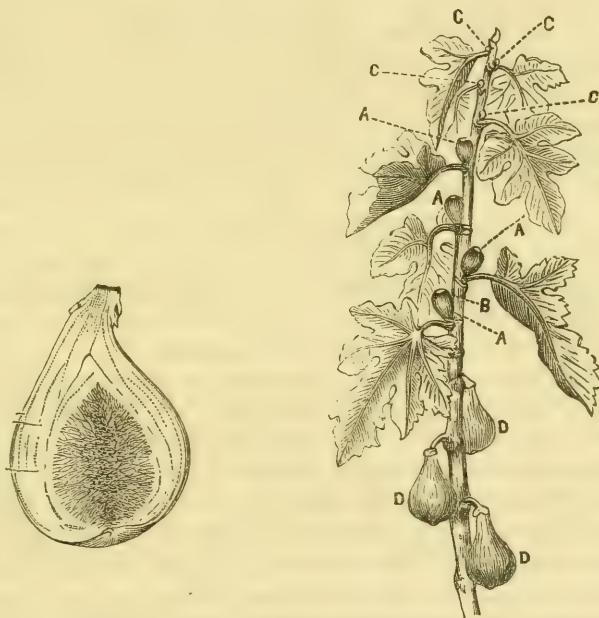
We know not how many varieties were known to the ancients. The probability is, that, from the high esteem in which the fruit was held, and the attention given to its culture, many more and finer varieties were known to them than to us. Be this as it may, there are yet a large number of varieties known at the present day. Among these Du Breuil enumerates “as only among the best which are cultivated in Provence,” twenty-two of the *White*, nineteen *Colored*, and seven of the *Black*.

The most favorite of the many varieties is that known as the “Ischia,” of which there are three kinds, the *White*, *Brown*, and *Black*.

*The Propagation* is a very easy matter. It is done by the Seed, Cuttings, Layers, Suckers, Roots, and Graftings. The best, most reliable, and earliest to insure fruit, is the process of Layering. The plant, if kept in a stool shape, which is for this latitude undoubtedly the best, will yield annually a number of layers. These, detached in the fall at the time of giving the parent plant its winter protection, and buried until spring, and then set out, are very sure, and come early into fruit.

*The Soil.* As to this, we would say, choose neither a wet nor a dry locality; rather what might be termed a moist soil. It is a French saying, that “the Fig likes to have its foot in the water and its head in the sun.” A light loam seems to be preferable, and especially a soil replete with calcareous elements. In *planting* and *training*, the rules followed in Fig-growing countries are not altogether applicable here, or at least in this latitude. In Europe, plantations are made. In England, walls are used; but with us the better plan is to grow the trees separately, and apart; not in rows, but scattered, and, if practicable, between other fruit trees. In this way disease, or an enemy attacking one plant, will not be communicated to the others. The most practicable form in which to grow the tree is in the shape of stools, taking great care not to allow them to become too thick or crowded. In this way it will be easier to give them their *winter protection*. Of all the fruit-trees, none require protection against winter frosts more than the Fig. If left unprotected in cold climates, it is sure to be killed down to the ground. Hence it becomes a very important question, how to afford this protection? It is a necessary evil connected with growing the Fig, and in any latitude where the tree can withstand the winter it is far better off without any protection. The uncovering the tree in the spring is attended very frequently by serious evils, in sudden checks, resulting in the loss of the first crop, and considerable growth of wood. Various devices have been resorted to for protection, but in this latitude the safest and easiest is to cover the tree with earth. This should be done late in the fall, before the ground freezes, and while it is yet fria-

ble and free from excess of moisture. The tree should be freed from all dead and unnecessary wood, the superfluous layers taken off, and the shoots gathered together and bound into a bundle with ropes of straw ; (this is supposing the stool form;) then dig around the roots, and throw the tree over, so that the whole mass shall lay upon the ground ; then pile on the earth and mound over to a sufficient depth to effectually exclude the frost ; taking particular pains to finish the mounds so that they will not break open during the winter, and that the rains and snow may readily drain away from their bases. In removing this covering in the spring, corresponding care must be exercised not to wound the canes with the spade, and the time for uncovering should be delayed as directed in Part No. I., in the November number.



We have spoken of the Fig solely as an open air fruit, and therefore do not intend here to enter into the subject of forcing, or the acceleration of ripening by artificial means.

We have practiced, in the fall crop, the anointing of the eyes of the fruit with olive oil, which, despite all the sneers of the overwise, we have found to facilitate maturation in a very remarkable manner ; the why and the wherefore we leave to more knowing ones to explain.

We are advocating the cause of a pet fruit, and if the attention of amateurs shall in any wise be drawn to the culture of the Fig by reason of any thing these

unpretending papers have put forth, their aim and object will then have been literally fulfilled.

*Explanation of the Drawings.*—They represent, one side, the section of a Fig, showing the flower within the fruit; on the other side, a branch of a Fig-tree, showing the summer fruit at D, the autumnal or second crop at A, B, and the rudimentary buds which appear in the summer, whose development is arrested by the winter, remain stationary until spring, and are then developed into the summer or first fruit. The portion of the branch bearing the summer fruit, D, shows how the leaves have disappeared to give full chance for the fruit to mature.

[Well, we were not wrong in estimating you above many Figs. Your historical allusions are very interesting; but there is one very interesting circumstance in its history to which you have not alluded: we refer to the fact, that at a very early period of the history of the world Fig-leaves were found very useful in making aprons.—In regard to winter protection, where the plants are grown in stools, the branches may be gathered into convenient bundles, bent down, and covered, without disturbing the roots, if this be preferred.—Ed.]

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#### SUCCESSFUL CULTIVATION OF PLUMS FOR MARKET.

BY JAMES M. BARRETT, CANTERBURY, N. Y.

So much has been said and written of late upon the Grape question, that I begin to fear we may forget that other fruits can be successfully raised. I therefore propose to give you my experience in raising Plums, in which I have made a profitable experiment, willing that my fellow readers of the HORTICULTURIST may go and do likewise, if they believe the Yankee maxim, that some things may be done as well as others, and that one man can do what another has done, *if he tries.*

In 1856, I set out with care what remained of seven or eight hundred Plum-trees, which had been stuck out by contract two years before, and up to that time had refused to thrive. This transplanting revived them, and from that period I date the beginning of my experiment, which, including the present season, makes six years that they have been under treatment. The ground between the Plum-trees has been regularly plowed and cultivated for the Raspberry crop, the product of which has paid all expenses, including \$50 per year ground-rent, for two acres and a quarter, and a profit besides. In 1859, I spread under each tree half a peck of common salt.

The black knot upon these Plum-trees has appeared regularly every year, and has been cut out clean to the healthy wood in the month of June, say within a

fortnight after its first appearance, and while the excrescence was still soft. It is then easily removed without injury to the tree, the wound generally healing over the same season. For the last three years this disease has decreased yearly. The past season I removed the whole from 640 trees in less than half a day. In 1859 these trees began to bear fruit, yielding twenty bushels, which was sold for fifty-five dollars, after paying expenses. In 1860, the crop was nine bushels and one peck, which brought three dollars a bushel. In 1861, I gathered and marketed seventy-two bushels, for which I received five dollars and twenty cents a bushel, after paying expenses. The total receipts for the three years amount to four hundred and forty-eight dollars and seventy-five cents, after paying all expenses, and amounts to about three times the original outlay, including cost of trees, labor of setting, and transplanting. I know of no business which pays a better profit upon the investment. Only about one-half of my trees have yet borne fruit. Many of them produced from six to twenty Plums the past season. Of course, the production may be expected to increase for many years.

The variety cultivated by me is the free-stone frost Plum, which is most prolific. The cling-stone is much the finest variety, holds good] on the tree two or three weeks later, and brings a higher price in market.

The secret of my success may be summed up as follows :

1st. By selecting varieties that are but little troubled by curculio, and that are marketed without damage to the fruit; these, being used for preserves, are gathered before they become soft and mellow enough to eat: consequently, they are not injured by transportation to market, and are sure to bring a good price.

2d. By careful planting in ground previously prepared and mellowed, and kept so by yearly working.

3d. By the use of salt as a manure.

4th. By an unsparing use of the knife upon the black knot in the month of June of each year, instead of waiting until fall or the next spring, or perhaps neglecting it altogether.

In former years the Plum crop of this country was a source of profit to almost every farmer, but the curculio has attacked and destroyed the finer varieties of fruit, and the black knot made such havoc among the blue Plum-trees, as to discourage its culture. May we not hope to see this fruit again generally cultivated for market purposes?

[There is no reason why we should not, if we take the necessary trouble, which need not exceed that usually bestowed upon the Raspberry in your own neighborhood. If the time and labor devoted to covering the Raspberry were bestowed upon the Plum, in jarring the trees, &c., as practiced by Ellwanger & Barry and others, the Plum would yield a fair average all over the country. Without some such devotion as this, it is useless to attempt growing few but the poorest kinds. Prince's Imperial Gage seems to be one of the few good Plums

not so much attacked as others. Cutting out the black knot, as you suggest, is very necessary. The application of salt, if not carried too far, is good, since it also helps to kill the grub; but we have known its injudicious application to be entirely destructive of the tree: the recommendation of such applications should always be accompanied by a caution. We are obliged to you for calling attention to this subject, and giving us the results of your practice. We shall be glad to hear from you again.—ED.]

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### VALUE OF NATIVE GRAPES.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

My remarks upon the value of native Grapes, at a meeting of the Brooklyn Horticultural Society, have been made the subject of comments in various journals, which may seem to call upon me for some reply. If the reports of my remarks had been fair, or correct, I would permit the case to rest upon the argument as it was offered, being well assured that the positions assumed were sound and just. But the chief reports (except the first in the *HORTICULTURIST*) were evidently prepared with a deliberate design to misrepresent and ridicule me; and hence I feel inclined to offer a brief statement of what I did say. Stripping the matter of many words, the following is an abstract of the remarks in question:

Being called upon to give some information respecting the state of native Grape culture at Philadelphia, I stated that there had been but little success here in this branch of pomology on any thing like an extended scale, either in respect to the gratification to be obtained from eating Grapes, or in pecuniary profit. I told the audience that there had been some native Grapes produced in city yards, and on arbors and trellises in the outskirts of the city, of tolerably good quality; but no encouraging success in vineyard culture, either for table use or wine.

I alluded to the fact that there had been a great excitement produced in the public mind by the exaggerated statements of the dealers in Grape vines, who had asserted that it would pay to invest \$4,000 in the preparation and planting of an acre of vineyard for market purposes; and that from \$500 to \$1,500 per annum could be produced from an acre.

In reply to these assertions, I stated that, so far as Philadelphia was concerned, there was not now, and never had been, an acre of native Grapes in the vicinity of the city which had proved profitable to the grower. I gave the details of the case of John Farnum, Esq., of Bustleton, near Philadelphia, who, seven years ago, planted eight or ten acres of Isabella and Catawba vines, purchased of a famous New York vineyardist, and managed by one of his vine dressers, which had proved an utter failure, making a loss of \$10,000 for the owner, to say nothing of time and annoyance. This vineyard, I am assured by the gar-

dener on the place, never paid tending, and has been nearly all dug up as worthless. Mr. Farnum is a gentleman of intelligence, and has a foreign Grape house about two hundred feet long, which annually produces from six hundred to one thousand pounds or more of Black Hamburghs, and other kinds, equal, in point of size, color, and flavor, to any grapes sold in Philadelphia. The failure of the natives, therefore, in this case, was not owing to want of skill in Grape culture.

I then stated, what I still believe, that the sum required to prepare, plant, and trellis an acre of native vines, and tend them till they come into bearing, would build a lean-to viney one hundred feet long, which would produce a crop of fruit more speedily and certainly, and of far greater value than the crop of an acre of natives, either for market purposes or for table use. Seven hundred dollars will build such a house, and I leave the reader (as I did the hearer) to estimate the cost of an acre of vineyard, but I am well satisfied that it will cost more than seven hundred dollars, if done upon the plan most commonly advised.

I instanced the case of my own vineyard, of nearly an acre, now three summers planted, which has not produced a pound of native Grapes, the early shoots being all killed by the frost last May, while my Grape house, which cost no more money, in fifteen months after planting, produced three or four hundred pounds of delicious Frontignans, Muscats, and Hamburghs, giving us almost daily a dessert of the finest Grapes for upwards of three months, (from July till October,) and worth, in good times, from fifty to seventy-five cents per pound. This house, I expect, next year, will produce six or eight hundred pounds of Grapes—probably more.

I stated the general objections to the native Grapes as follows:

1st. We have no native Grapes, except the Delaware, which can at all compare with the foreign kinds, and the Delaware is too small to give a good weight of crop. The Isabella is generally a very poor, watery Grape; the Catawba, though good when ripe, does not generally mature here; the Diana is very good, but ripens imperfectly; the Concord is a very coarse, common Grape; and the rest have no merits which really render them worthy of extended vineyard culture.

2d. The crop of native Grapes, at Philadelphia, is very *uncertain*, on account of frosts killing the young shoots and destroying the fruit, and other causes.

The buds and foliage are destroyed by vine beetles.

The foliage and fruit are often ruined by mildew.

The fruit is destroyed by "rot."

3d. The crop, when obtained, is of small value for market purposes, or other use, and unsalable at any paying price. The usual price of common native Grapes raised in the immediate vicinity of Philadelphia, is from six to eight and ten cents per pound at retail. The best quality may occasionally bring twelve and fifteen cents. The best Catawbas sold here come from Ohio; and selected fruit, in the regular season, sells at fifteen and eighteen cents per pound. The vineyard grower

can not, in many instances, act as retailer, and hence the price (by wholesale) must be much below the above figures, as the crop is perishable and the market dull. The fruit dealers all declare that there is no money to be made by selling native Grapes, because the margin of profit is small, and the sales dull and uncertain. The truth is, people don't want the native Grapes, in any large quantities, at any price. A housekeeper who thinks nothing of buying twenty-five to a hundred quarts of Strawberries, Raspberries, and Blackberries in a season, for eating fresh and for preserving, would not purchase five pounds of common native Grapes at six cents a pound.

4th. There is much talk of using native Grapes for making wine. The fact is, that the Isabella and other Grapes which will ripen fairly, will not make wine (true wine) at all, and the common domestic wine, from any Grape, is wretched stuff. Good wine can not be made in this careless and unskillful way.

5th. The common, badly cultivated, ill-ripened native Grapes, are not only unpleasant to the taste, but positively indigestible and dangerous to delicate children and persons of feeble digestion. Sudden and violent deaths have been produced in the vineyards at Cincinnati from eating rather freely of the Catawba. The pulp of the native Grape is very indigestible, and the seeds often prove very irritating to the intestines.

One gentleman stated, in reply to me, at the meeting referred to, that he had eaten five pounds of native Grapes per day during the height of the season, in addition to his other food, I suppose. Now, the rations of a soldier, under heavy marching, consist of only two pounds and a half of solid food in twenty-four hours; hence, I think we must set down the case of this gentleman as one of depraved alimentiveness. I am quite sure that five pounds of native Grapes, such as are generally produced and sold at Philadelphia, would kill any ordinary human being, if eaten in one day.

Thus much for the general tenor of my remarks at the Brooklyn Horticultural Society. My main point was, that any person who desired good grapes, and could afford to plant an acre of vineyard, had better put up a grape-house, and grow the foreign kinds under glass. I said that the vineyard culture of native grapes had not been successful or profitable at Philadelphia. I think so still. I have made diligent inquiries of the best informed persons, and have yet to hear of a successful vineyard which has been planted within five or six years. Ten years, or more, ago, when native grapes retailed at twenty-five cents per pound in our market, there was some money made by raising native grapes at Reading; but not much lately.

The nonsense put forth by the writer, under the signature of "Brooklyn," in the HORTICULTURIST, is almost unworthy of a reply. I did not speak as a rich man, who could afford to have costly grape-houses, nor with contempt of the "simple pleasures of the poor." I was only comparing the relative cost and product of extended grape-culture in the vineyard and under glass. So all his sarcasms are as pointless as a bad joke, with the laugh taken out.

The writer in the New York *Evening Post* must not misstate me too boldly. It would take half a number of the HORTICULTURIST to answer him in detail. Suffice it to say, that I have seen acres of native grapes on a place cultivated by that writer, in September, not very far from New York, some two years ago, in a partially ripe condition, (as ripe as they ever would be,) and when I inquired why he did not pick them, and sell them, he replied, *it would not pay him to pick them*; he was too busy with other things to pick and market them, or have them picked. This was no doubt true; if they grew wild, it would not pay a man in decent business to hire help to pick and market common native grapes, at common prices. The writer referred to should not misrepresent me, and then attempt to disgrace me for what I have not said. Nor should he attempt to put down my method of culture by unfair statements. He is too easily known by his style. One who never speaks or writes on the grape without using the phrase "vinous refreshment," which nobody else does use, can not expect to employ his usual style in anonymous attacks upon any member of the Horticultural fraternity, without being discovered. Fair play is of as much value as the Delaware grape.

In conclusion, I wish to be understood in this matter. I am not opposed to native grape culture. I cultivate these grapes extensively, and as successfully as others do. But I do not think them generally profitable, or very useful, or very gratifying to the taste; and compared with foreign grapes, raised under glass, they are unworthy of much labor or expense. A few native vines, in a sheltered situation, or on an arbor, may be found useful on any country place; and persons who can not afford to have a viney of any size, or who could not manage one, may be much gratified with a few vines of natives. But those who for any purpose grow the natives extensively, near Philadelphia, I think are doomed to disappointment in the result. I think the Delaware a fine grape, quite satisfactory to the taste; but it will scarcely produce a profitable return, in vineyard culture, until vines are to be obtained of better quality, and cheaper than those now offered. I confess myself a victim of the native grape mania; but it is not on account of my lack of skill in culture, nor in consequence of the system of culture pursued, as the writer in the *Post* would lead the reader to suppose; for the same skill and the same system prove eminently successful in the more difficult culture of the hot-house.

Now let us have all the facts and statistics on the *profit* of native grape culture in vineyards of one acre, or more, north of Maryland and east of Ohio.

Dr. Grant is reported in the December number of the HORTICULTURIST as saying to the Brooklyn Society, that "*the vineyard affords a more remunerative pecuniary return, than can, by any other branch of culture, be drawn from the bosom of our blessed mother earth.*" All I have to say is, that at Philadelphia, "our blessed mother" don't treat us in that way. Here "the fathers have eaten sour [native] grapes, and the children's teeth are set on edge." As to the pecuniary profit of vineyard culture, we are in the condition of the famous Lord Dundreary, when a cruel joke is made at his expense, *we "don't see it."*

[The length of the Doctor's article precludes us from any extended remarks; and as both he and the reader are familiar with our opinion on the subject, they will not be missed at present. The Doctor's remarks and our reply are fairly though very briefly given in the October number, in the proceedings of the Brooklyn Horticultural Society. We can not conceive of any satisfactory reason why native grapes can not be well and profitably grown around Philadelphia; and if this controversy shall develop any such reason, we shall not regret that it has taken place, for it would certainly develop a very remarkable fact in horticulture. In regard to eating five pounds of grapes a day, (*good* ones of course are understood,) nearly twice that weight per day is common in the "grape cures" of Europe; a friend recently from Italy assured us that he ate over eight with great benefit. We will undertake to grow fat on good grapes, native or foreign. We are now ready for the other side. Eat freely, but speak moderately.—ED.]

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ROGERS'S HYBRID GRAPES.

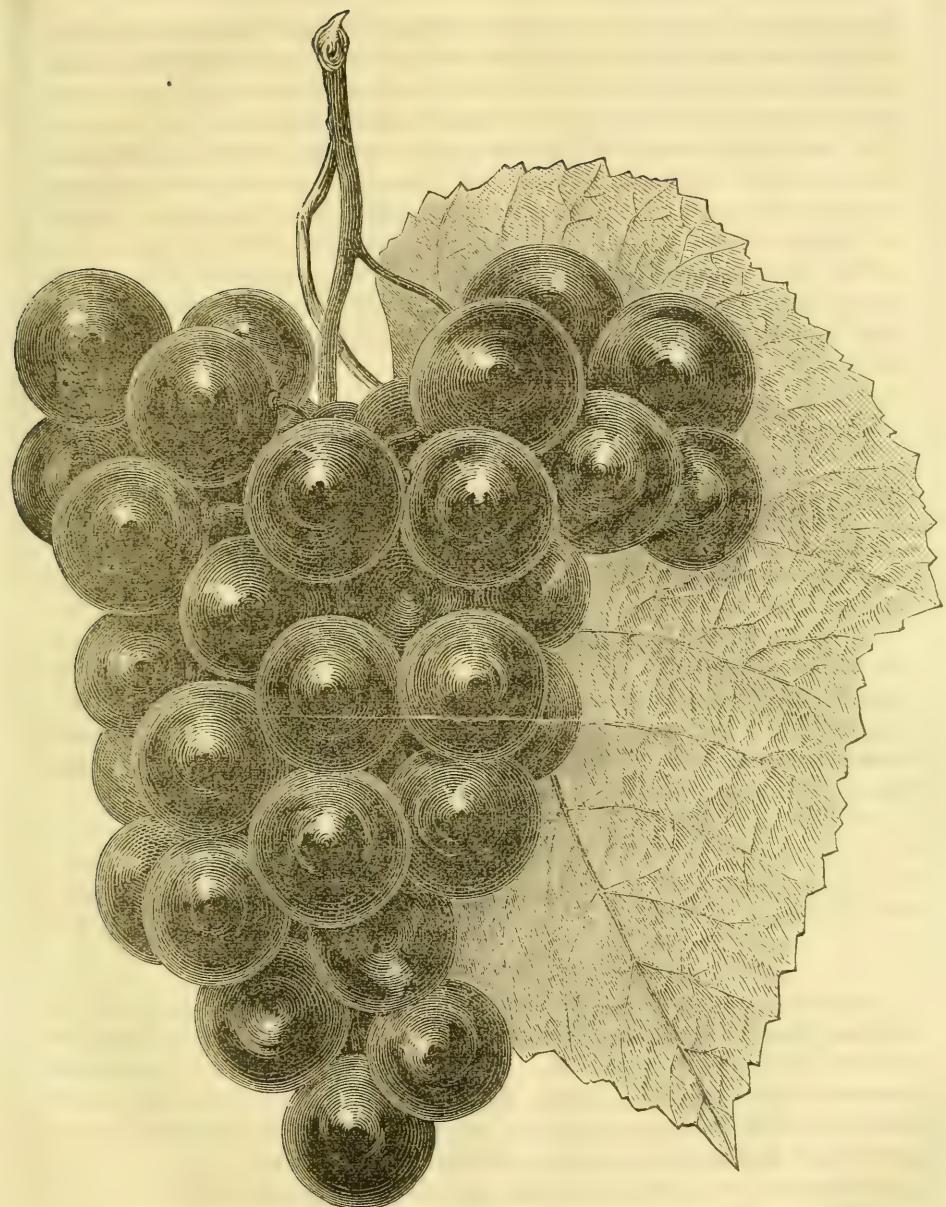
BY VINITOR, BOSTON, MASS.

MR. EDITOR,—Having read in the HORTICULTURIST, of 1858, an account of the Hybridization of the Grape, by Mr. Edward S. Rogers, of Salem, and recently seen some fine specimens of the fruit on exhibition here, I was induced to make a trip down there, for the purpose of examining the vines, and would like especially to give you a brief notice of one of the best, No. 15, growing in the garden of Mr. William H. Harrington. He informed me it was three years and a quarter old from the bud; the second year making a strong growth, showing two or three small bunches of fruit.

The past season has given ample evidence of its quality and comparative merits with many of the new and old kinds of hardy grapes. It has been the object of much interest and attention, and visited frequently by many gardeners and horticulturists in the vicinity, such as Col. Wilder, J. M. Ives, Esq., and others well known about the country.

Rising amid the Dianas, Concords, Isbellas, Hartford Prolifics, Rebeccas, and Delawares, near by, it seemed unrivalled in vigorous, golden, short-jointed wood, and large, luxuriant foliage, profusely laden with bunches (over a bushel) of amber-colored fruit, equally remarkable for size and beauty. The flavor is aromatic, resembling, though higher, somewhat, the Diana, Frontignans, or Catawba. It began to ripen the 20th of September, before the Concords or Dianas alongside; the vine showing no mildew, and the berries, every one, adhering firmly to the branch after gathering, unlike many valuable sorts.

The opinion of all is, that it is first rate; and of many judges, the best out-door grape yet raised, if continuing to do as well. Mr. Harrington has made way, by



ROGERS'S HYBRID, No. 15.

taking up many Isabellas, for more of Mr. Rogers's new varieties of Hybrids; and I will conclude by saying, that, from among his thirty kinds of new seedling crosses of the foreign with some of his best of the original forty-five, (four of which are in bearing,) we may soon look for something more valuable.

By these experiments, Mr. Rogers seems to have made assurance of the art of hybridization of the grape doubly sure, and reduced it to a system, with exactness, precision, and certainty, entitling him to the honor of first realizing on the vine the beautiful though distant vision of Lord Bacon, over two centuries ago :

"The compounding or mixture of plants is not found out, which, if it were, is more at command than that of living creatures; wherefore it were one of the *most notable discoveries* touching plants, *to find it out*; for so you may have great varieties of fruits and flowers *yet unknown*."

[We have heard a good deal of these hybrid grapes of Mr. Rogers, but have seen only one, and but little of that, so that we are unable to give any opinion of our own. The above, however, is from a gentleman who has seen them often. We should be very glad if specimens of these grapes were sent to us next season. We feel a peculiar interest in all new grapes, and are always glad of an opportunity to make a record of them, provided they have merit. Col. Wilder has pronounced these grapes to be true hybrids, so that Mr. Rogers enjoys with Mr. Allen the honor of having successfully crossed the foreign with the native grape. Mr. Wilder describes No. 15 as follows: "This is a new hardy grape, raised by impregnation of a native sort with the Black Hamburgh. Color, deep amber; clusters large, often with shoulders; berries large; flesh tender, of a rich aromatic flavor, resembling Diana; vigorous; very productive; ripening earlier than that variety." An engraving of No. 15 is given above.—ED.]

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## HOW TO BUILD YOUR COUNTRY HOUSES.

(See half title in front.)

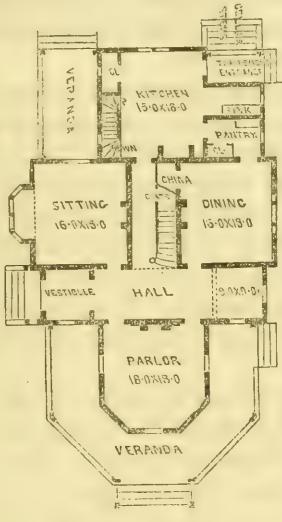
BY CHARLES DUGGIN, ARCHITECT, 532 BROADWAY, N. Y.

THE house I have selected to illustrate the present number, was erected in 1860, at New Brighton, Staten Island, and forms one of a group of seven, the property of W. S. Pendleton, Esq. Being situated on high ground, it commands extended views over New Jersey, New York, and Long Island. This house being erected for renting, the plan was arranged with particular reference thereto, and as such is offered as a residence suitable for most families.

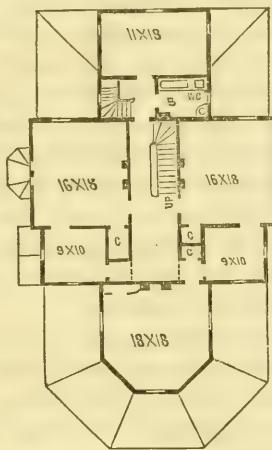
It is planned on an economical scale, and at the same time is liberal in its arrangement. All the rooms are of moderate but comfortable size.

*The arrangement.*—Passing through a vestibule, the hall is entered, from which doors open into each room; by this means a free circulation of air through the

various apartments is secured. It will be observed that the hall is symmetrically arranged, the doors to the several apartments being placed directly opposite each other; this gives the hall a very handsome appearance, and places the different rooms in easy communication with each other. That portion marked off at the end of the hall, if deemed best, might be partitioned up, and a door placed in the



Principal Floor.



Chamber Floor.

centre. This would form a comfortable little library or study; or, if preferred, be left as at present, with simply an arch thrown across the hall. To this arch could be suspended curtains, which, if hung in festoons and gathered up gracefully, would tend much to enhance the appearance of the hall. With the arch and curtains this space could still be appropriated as a library or snuggery, to be inclosed by the drapery when in use. A French easement or sash door is provided from the vestibule and from the end of the hall, for easy access to the veranda, thus avoiding the necessity of passing through the parlor for that purpose.

The principal stairs are placed in a side hall; under these stairs a closet is provided for hats and coats. This side hall also answers the purpose as passage to the kitchen.

The kitchen is of ample dimensions, and is fitted up with every convenience, such as range, boiler, dresser, closet, etc. A sink-room is also provided in connection with the kitchen, in which is placed the pump to supply the tank in the third story. The communication to the dining-room from the kitchen is through a pantry, the doors of which are so arranged as to prevent, as far as possible, the fumes of the kitchen gaining access to the dining-room.

The dining-room is a very pleasant apartment, with a convenient space on either side for a sideboard. A china closet is also provided to this room.

The wash-room is located in the basement, underneath the kitchen. The space beneath the pantry, sink-room, and kitchen porch is walled up, and paved and connected with the outside by the cellar steps. The remainder of the basement is devoted to the furnace, coal, and store rooms. Should more room be required on the first floor, the kitchen could be removed to the basement, taking the place of the wash-room, and a dumb waiter provided in the pantry. This would allow of the present kitchen being used as a dining-room, and the present dining-room for any purpose required.

With regard to the arrangement of the second story, little need be said, as the plan is self-explanatory. The small rooms are made to communicate with the chambers, so that they can be used as dressing-rooms if required. The front small room might be increased four feet in length by taking away the closets; in that case a closet to the chamber should be provided alongside of the fireplace.

Three chambers are provided in the third story, with closets attached. That portion of the third story over the parlor is left unfinished, and makes a convenient place for storing away trunks and other articles. There is also a small room in the tower, but the stairs to the upper story of the tower interfere somewhat with the available space.

The height of the basement is seven feet, the first story eleven feet, the second story nine feet six inches, and the third story eight feet in the highest part.

*Construction and Finish.*—The foundation or basement walls are built of stone and twenty inches thick. The outer surface where coming against the earth is plastered up with cement, so as to keep out the dampness. All the walls above the basement are constructed of wood. The frame is filled in with brick, and covered on the outside with narrow rebated clapboarding, the window casings being cut out of plank one inch and a half thick. The roof is covered with ornamental cedar shingles. All the workmanship and materials are of the best description. The rooms on the first and second stories have appropriate moulded cornices and centre-pieces. The spaces between the roof rafters are filled in with an additional coat of lathing and plastering. This is but a trifling additional expense, and keeps the attic rooms warmer in winter and cooler in summer.

From the back of the kitchen range a hot air flue is provided, connecting with the bath-room over. This answers the double purpose of heating the bath-room, and at the same time prevents the water in the pipes from freezing.

From the upper story of the tower a very extended view is obtained of the surrounding country. To make this room even more interesting, the sash is glazed with stained glass of different shades and grades of color. Looking through these various tints, it has a singularly interesting effect. It also has the recommendation of subduing the glare of light that is generally an objection to these tower rooms.

*Cost.*—The carpenter and mason work may be put down at \$6,500. The mason work, however, was the only portion done by contract. This amounted to

\$1,600, which included the drains and cess-pools. An estimate was obtained (\$4,900) on the carpenter's work, for the purpose of contracting it out. It was, however, decided to do this portion by day's work. In addition to the above, should be added the cost of the furnace, mantels, grates, and plumbing.

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## THE STRAWBERRIES OF THE WORLD, AND THEIR NORMAL SCIENTIFIC CHARACTER.

BY WILLIAM R. PRINCE, FLUSHING, N. Y.

I HAVE long been desirous to express my views, and the facts in regard to the Strawberry Question, in order to set at rest the erroneous opinions so generally existing, and you may judge somewhat of my feelings when witnessing, for the last twenty years, the flounderings and misconceptions of Dr. Lindley and others who have deemed themselves "exclusively scientific" on the Strawberry question of sexuality, as well as on the Grape question, and more recently on the Currant question. The extreme prejudices of Dr. L. against every thing American, you and I perfectly understand, and can therefore estimate at their actual value.

On the present occasion I shall confine myself to the first question—the Strawberry. In response, some years since, to Mr. Longworth, Dr. Lindley replied, that they knew of nothing but hermaphrodites in England, and in a recent article in the Gardener's Chronicle he has reiterated the assertion by stating that, "with the exception of the Hautbois variety, (species?) if any one has ever yet discovered a sterile Strawberry in England, (meaning any plant not hermaphrodite,) he has yet to hear of it."

Herein, as I shall proceed to show, the Doctor, while professing to be "exclusively scientific," has ignored all science. He has ridiculed the idea of sexuality in the Strawberry, which has been repeatedly asserted by Americans as competent as himself to form a correct judgment, simply because his personal knowledge and investigations have been so circumscribed as to embrace only such special fancy varieties as are in vogue in England, while he betrays an utter ignorance of the sexual characters of many of the varieties grown in the London Horticultural Society's Garden, and announced in their catalogues, and this in face of the fact that he was for a long period the Secretary of that Society, occupying thus a position which opened to him every source of information.

And here let me say, that Dr. L. uses the word "sterile" very incorrectly, its true meaning being incapacity to produce progeny. In point of fact, therefore, there is no such thing as a "sterile" Strawberry either in Europe or America. There are males and females, both unproductive when separated, (like males and females of animals,) but each necessary to the other in the course of reproduction, and devoid of all sterility.

To return. In the first edition of the London Horticultural Society's Catalogue,

published in 1826, there are *seven pistillate or female varieties* of the Strawberry named as under culture in their garden: Old Scarlet, Black Roseberry, Bishop's Seedling, Knight's Large Scarlet, American Scarlet, Methven Scarlet, and Black Prince. In the third edition, published in 1842, there are *eight pistillate varieties*, being the same as above, with the addition of the Bishop's Wick; and more recently, Ingram's Princess Royal and Hovey's Seedling, both of which are pistillate varieties, have been under culture in England. It will thus be seen that seven of these pistillate varieties (termed by Dr. L. "sterile") have been in the London Horticultural Society's garden for more than thirty years, and that three other pistillates have been cultivated in England for a less period, and yet he has remained ignorant of their existence.

Dr. Lindley commits another great error when he assures us that the *Fragaria Virginiana* produces there always perfect (meaning hermaphrodite) flowers, when, in point of fact, the American Scarlet and Old Scarlet Virginian, Nos. 1 and 17 of the London Horticultural Society's Catalogue, and four seedlings therefrom, Nos. 7, 30, 31, and 40, also therein named, and which have been grown there since 1826, are all pistillate varieties of the *Fragaria Virginiana*. What is the use of optics?

It is plainly apparent that in Europe this subject of sexuality has been almost entirely overlooked by the mass, and that investigation has been neglected by the professedly scientific, and discouraged by the prolonged assumptions of Dr. L. and others, that the "science" of the otherwise "cute" Americans was mere "theory and assertion," which simply required a little English "practice and common sense" to regulate it. Thus they have, during the whole period of forty-four years since the establishment of the London Horticultural Society's garden, remained in the ignorance of "Intellectual exclusiveness," from which Mr. Wray's account of what he saw in America has at last awakened them.

Undoubtedly the publication by Mr. Wray of the "Scientific Culture of the Strawberry," resulting from his recent visit to our American gardens, will effect quite a change in the European method of culture, so that it will henceforth be based on those scientific principles long practiced in this country, and which were announced by my father, Wm. Prince, and myself in various Horticultural periodicals, and published in our "Treatise on Horticulture" in 1828, and which have been assumed by Mr. Longworth and others throughout our country, until they have become the recognized basis of all American Strawberry plantations.

So indispensable is this sexual combination to the production of abundant crops in all the American varieties, and in the Pine and Hautbois varieties cultivated in Europe, that it may well be doubted whether any person in England has yet realized what constitutes a full crop of Strawberries. Attention to sexual distinctions being indispensable in a scientific view, it is equally

demanded in every country and climate where Strawberries are grown that possess these characteristic distinctions. There should be no confused application of the sexual terms *staminate* and *hermaphrodite*, as the plants of these sexual divisions are entirely distinct; and while there are some species or families that combine both of these varieties, there are others that possess but one, to the entire exclusion of the other; and any lack of discrimination will consequently produce confusion. Nor should the term "sterile" be ever used in reference to staminate or pistillate, it being inapplicable to either.

It may here be cited as a singular fact, that of the eleven edible species of the Strawberry, there is but one which is positively known to combine all the three variations of staminate, hermaphrodite, and pistillate; although European writers, and some of our own, have run into the idea that the seeds of any one species would produce plants of all the three sexual divisions, and some have even declared that there was such confusion and vacillation in the sexuality, not only of seedlings, but of the actually existing varieties, that no reliance could be based on these distinctions as a reliable test for distinguishing species and varieties. Such views, however, are adverse to the facts. No such variations of character ever occur, but nature sustains these normal distinctions as permanent and eternal, the vacillations finding existence only in the brains of such theorists.

The Rev. W. F. Radelyffe and W. J. Nicholson have responded to Mr. Wray's article, but both appear to labor under an entire misconception of the actual question at issue. The former does not touch the subject of sexuality, but recommends about twenty European hermaphrodite varieties for American adoption, all of which have been tested here, and have proven failures as to crop, in field culture, and are only grown successfully there by special garden culture. He, however, admits "the disgraceful culture of this noble fruit in England." Neither does Mr. Nicholson seem to realize the real points under discussion, although he cultivates about 200 varieties of Strawberries. He claims that science is applied to the Strawberry culture in England, "without so much trouble as Americans give themselves about staminates, pistillates, and hermaphrodites." He refers to a crop grown in pots, the berries of which were sold at one penny (two cents) each, and then triumphantly says, "Science assists us in producing forced Strawberries." He declares that "practice and common sense" are all that are required for field and garden culture, but entirely ignores the scientific sexual facts on which that "practice and common sense" should be based. I regret to see that Mr. Gloede, in a response, adopts the same delusive error, which has seemed to confuse the brains of others, when we might expect more light from one resident in a climate where there is less fog and more mental electricity, and where people are less likely to reject scientific facts under the illusion that they are "mere theories," and adopt "mere theories" in lieu of scientific facts. Mr. G. says that he has grown "some of the American pistillate varieties under glass, and never one bloom failed

to perfect its fruit." We wish he had given us the names of these varieties, as we think we could then have solved the apparent mystery. Was the true Hovey one of them? When he can produce a crop of fruit from the Hovey, or any other truly pistillate variety grown separately, we shall expect women to give birth to children without a male parent.

Do, Mr. Gloede, repeat your experiments with more care. I regret to see that such trash as the Harlaem Orange, Monroe Scarlet, Marylandica, Scott's Seedling, and others, are supposed in England to be among our esteemed varieties, when they have all been entirely discarded here. Among the thirty varieties they call North American, (five of which are not so,) I do not see but six varieties that are here deemed worthy of culture, and they include but two of our estimable pistillates, whereas we have above one hundred splendid and very distinct varieties, remarkable for their vigor, hardihood, and abundant crops, many of them of an orange scarlet hue unknown in Europe, and including four large white varieties of great vigor and productiveness, and excellent in flavor, of all of which they appear to be entirely ignorant.

Although it is a truism that the differences between the humid and cool climate of England and our dry and hot atmosphere, cause the best educated English gardeners, who migrate here, to commit great absurdities; yet these climatic variations have no more connection with the sexuality of Strawberries, nor with the results of that sexuality in the productiveness of the crop, than they would have on two crops grown side by side, the one on dry soil, and the other subjected to irrigation. *Sexuality is nature's scientific fact.* The success and extent of the crop are the result of art and culture. The incontrovertible truth thus stands forth, that the exercise of science in regard to the existing sexuality is not necessarily variable by climate, but is quite as important in one country as in another. The chimerical idea of a transmutation of sexes, by any variations of climate or circumstances, is antagonistic to that order of nature which can never be varied or contravened any more in the humblest plant, than in the largest animal, or in the movements of the spheres.

"From Nature's chain whatever link you strike,  
Tenth or ten thousandth, breaks the chain alike."

As climate—cold or hot, dry or humid—can in no wise affect the sexuality of any plant more than of any animal, the assertion, made by a quondam observer, that the Alpine varieties of Strawberries, which have perfect flowers (hermaphrodite) in the moist regions of perpetual snow, when removed to the drier climates of lower regions, produce pistillates and staminates as seedlings, *has no foundation in truth.* As the plants growing in the Alpine regions are all of the *Fragaria vesca* and *F. collina* species, I now put the question to every cultivator, whether he has ever seen one single variation as alleged in all the seedlings that have ever been produced from those two species. No such variation has ever

occurred, and the assertion is in direct contradiction to Dr. Lindley, who says he has never seen any other than hermaphrodite plants except of the Hautbois, (F. elatior.) It is also controverted by the fact that it is universally recommended that the Wood and Alpine varieties be propagated from seeds, their sexual organs being always perfect; and this course is specially urged by Keen in the London Horticultural Transactions, and in the "Bon Jardinier," they having been grown in France for centuries without the least variation.

If the observer who advanced such chaotic ideas of an equivocal creation had stated that men and women of those Alpine regions, when they emigrate to lower lands, transpose their sexuality, it would have been no greater absurdity.

We now come to the actualities of this question, over which European writers have been speculatively floundering, without anchor or helm, for the last thirty years, never once, in their observations and comments, touching the main point, or obtaining a truthful deduction by a scientific investigation of the sexual question, as presented to them by American publications thirty-four years ago. Nothing has been done, either by their Horticultural Societies or by men who, like Dr. Lindley, claim science as their especial guide.

All the esteemed European seedling varieties now cultivated in England, France, and Belgium are hermaphrodites, and Mr. Wray states that "these are so imperfectly developed in their organs, they seldom produce other than a very scanty crop of inferior and imperfect berries." "That the object of the high-priced grower is attained if he has only a few large sized berries on each plant, but that if these plants were placed in an open field, deprived of hand-glasses, artificial impregnation, and unremitting watchfulness, they would be dead failures, and for a general crop quite unsuitable."

It is admitted on all hands that the principal Strawberries in England are treated as tender exotics, and Mr. Wray asks, "Why is it so pampered, swathed, and swaddled, and its hardy character so completely ignored?" In England, the fine varieties of Strawberries are so expensively grown that they only reach the tables of the wealthy classes, whereas in America they are chiefly grown for the million. Mr. Wray also remarks that "so hardy a plant should certainly appertain more to open field culture than to the elaborate and expensive culture of the garden." The reason, he says, is "because science has not been applied to its culture," and hence "the supply is totally inadequate to the demand."

There are points of consideration other than the sexual question, which European writers and cultivators have hitherto lost sight of, and that even Mr. Wray does not seem to realize, which hold a most important bearing on the success of the Strawberry in open field culture in England, but as these appertain more particularly to that special point, I will defer making any comment thereon until my next article, which will be on *Culture*.

Here Strawberries are grown without any special care in vast fields of ten to fifty acres, without any covering or protection. The idea of treating our estimable

varieties as tender exotics, when their parentage is traceable to Labrador and to the Arctic regions on the Atlantic, and to Oregon and Vancouver's Island, and even up to the Russian possessions on the Pacific, is an absurdity which no American has been guilty of. Mr. Wray speaks of 5000 quarts being grown to an acre at Cincinnati, but on many plantations there and elsewhere 200 bushels (6100 quarts) are not considered an extraordinary crop, and in frequent instances it is claimed that the crop amounts to 250 bushels or 8000 quarts per acre. It is shown by our present statistics that one strawberry grower at Baltimore sent to market 6000 quarts a day, and sold his crop for \$6200; that the sales in Cincinnati have attained to 9000 bushels annually, and that in one day 25 tons, deducting the weight of baskets, were brought by the Erie Railroad to New York, independent of the quantity furnished by other routes, the gross annual supply being estimated at over 40,000 bushels.

How great then the loss to Europe that they have failed to introduce our robust and productive American varieties.

Not content, however, with ignoring our productive pistillate varieties, the European culturists have, by an inanition scarcely conceivable, cast aside the advantages which nature had presented to them, and assumed the annihilation of the indispensable staminate plants of the Hautbois and Pine families.

The large "White fleshed varieties," as they are termed in Europe, and which are there held in most esteem, have all been originated from seeds of the *F. grandiflora*, which comprises both male and hermaphrodite varieties, and it has there been particularly insisted that the hermaphrodites of this family possess both male and female organs in perfection.

It is true that the organs are always present, but the male organs of these hermaphrodites are deficient in pollen, whereby a combination with the staminate is rendered indispensable to a perfect crop. The assumption of this fatal error as to the perfection of the hermaphrodite varieties culminated in the adoption every where in Europe of a system based on the destruction of all male seedlings, and a practice thus fallacious—an utter perversion of nature—has been universally urged in England and elsewhere throughout Europe, and has resulted in the extermination of the male plants. It seems never to have occurred to their superficial minds that nature, always equally economical as provident, and ever compensatory, had not furnished these staminate or male varieties without a purpose, and that they were, therefore, essentially necessary to the ample results which nature had designed as to the crop.

"Go, wiser thou! and in thy scale of sense,  
Weigh thy opinion against Providence;  
Call imperfection what thou fanciest such,  
Say here he gives too little, there too much."

Although the hermaphrodite varieties combine the two sexual organs, yet normally but one of them is perfect and preponderates, and the other is defective; con-

sequently, the combination of the male is required in the one case, and the female in the other, to perfect a full crop. It would, therefore, seem that nature in the vegetable as in the animal kingdom is ever exercising her influence to the compensating principle, and that the means imparted are always in exact ratio to the result to be attained. And it must here be borne in mind that these sexual conditions are all normal or primeval, and consequently are permanent. From the time of Linnæus and Jussieu to the present day, we do not witness any sexual change whatever, and a standard that has remained unchanged from their day down to the present time, with no prospect of any future variation, may well be considered as permanently established.

When in any of the *Fragaria* species the male organs of the hermaphrodite are imperfect, nature, ever provident, furnishes the male or staminate plant to supply the deficiency. And when in any species the female organs in the hermaphrodite are defective, Nature presents us with the pistillate or female variety. But when any species, like the *F. vesca* and *collina*, and also the *Indica*, are perfect in both organs throughout all their varieties, Nature, never wasting her resources, gives us none other than hermaphrodites.

 THE FISH IN THE SUBTERRANEAN LAKE OF KENTUCKY HAVE NO EYES!!

These exterminated males are as necessary to make up the imperfection of the *male* organs in the European and South American hermaphrodites, as the female or pistillate varieties of North America are essential to compensate for the deficiency in the *female* development of our hermaphrodites. It is this perversion of Nature by the destruction of the male plants which she had furnished, that has rendered it necessary, in the humid climate of England, to have recourse to artificial impregnation by hand; and this attempt to improve on Nature, while really waging a most unnatural war against her, has been the continued cause of the miserable crops produced in England, where the flowers of many varieties are reduced by hand to four on each plant, and the plants have also to be specially nursed to insure the development of even this small product.

The wanton destruction of the male plants so necessary to efficient impregnation, is precisely similar to a man's cutting off both his natural arms, in order that he may find use for artificial ones.

The annihilation of the males of their own native *Hautbois* is not only strenuously urged in Europe, but it is declared by their most intelligent cultivators that it is to the existence of these "sterile (males are not sterile) plants," that the discredit and abandonment of its general culture is to be attributed, in consequence, as they say, of some people believing (as the Americans do) that it is necessary to combine the two sexes to secure a good crop; and that by adopting this course the "sterile plants" (males) overrun the females, and thus the beds become nearly barren. I suggest the adoption of our American practice of planting the sexes in distinct beds. I desire also to impress on Europeans that it is the same unnatural destruction of the males that has reduced the crops of the

Hautbois, which were formerly abundant in a state of nature, and I urge the adoption of American sexual science in their treatment, by which they will restore it to its former fertility. Thus by reversing their practice they will revolutionize the results. The additional normal fact that the four great families, the F. elatior (Hautbois) and F. vesca, (Wood,) the F. grandiflora (Pine) and F. Virginiana, (Scarlet,) *never blend with each other by any sexual union whatever, and can not consequently be fertilized except by their own staminates, renders the preservation of both sexes indispensable where they normally exist on distinct plants.*

As a proof of this fundamental fact, there has not during the 250 years which have elapsed since the first interchange of European and American Strawberries, been produced a single hybrid between the species of the two hemispheres, or between the three species which are natives of Europe, or between the species which are natives of South and North America. The six North American species blend sexually with each other, and the two South American species blend with each other, but these two sections can never be sexually blended, nor can any American species ever be blended with those of Europe. This normal fact of sexual aversion, which forms the scientific basis of all Strawberry culture, appears not to be understood by Europeans, as even the French as well as the English publications recommend that the male Hautbois be planted near the Chili and Pine varieties, in order to render them fruitful.

The neglect of scientific sexual culture has been more unfortunate in regard to the F. Chilensis, the largest Strawberry of the earth, than to any other. It appears that when this noble species, which, in its native country, produces fruit as large as a medium-sized hen's egg, was brought to Europe in 1712, only one sexual variety was introduced, and that its potent stamine, indispensable to develop so large a fruit, was left behind. The neglect of scientific scrutiny and the apathy which has consequently existed in Europe as to the present vital question, has caused their cultivators to ignore the great advantage attainable by the importation of the other sexual variety; and as the staminates of other species have proved uncongenial, the seminal production of this noblest of all Strawberries, by improved varieties, has had necessarily to be abandoned, and not one representative of this species now exists in the London Horticultural Garden, and, with the exception of three or four *hybridized* seedlings in France, the Chilensis is only known throughout England and the Continent as a botanical curiosity, not one genuine seedling having ever been produced for want of the other sex. Such is the unfortunate result for which the horticultural savans of Europe are responsible, by their having left the question recently propounded by Mr. Wray to be answered, at this late day, in the negative: "Is science brought to bear on the art of Strawberry culture in England?"

Mr. Wray, despite the adoption of the enlightened views lately presented by him, falls into some errors as to culture, which I shall correct in my next article; but there is one which I can not leave unnoticed at this time.

Mr. Keen has been referred to as having made some discoveries in regard to sexuality in 1809. He did so, and, as he states in the Horticultural Transactions, his discoveries were as to the Hautbois Strawberry only. Mr. Wray, however, applies this discovery to his "Keen's Seedling," which was not produced until 1821; to which, of course, it can have no application, and which, with his "Imperial," the only other variety he ever produced, are both of the *F. grandiflora* family, of which no pistillate variety has ever yet been produced in Europe, nor yet one enumerated in the London Horticultural Society's catalogue to the present hour. Mr. W. fell into this error probably by following Mr. Longworth, who makes the same transposition of facts and dates, the long period which has since elapsed probably causing forgetfulness of particulars.

The pistillate Keen's Seedling that found its way to Mr. Longworth is a misnomer. It is a native seedling of Indiana, of the wild prairie species termed *F. Illinoiensis*. I obtained it from Mr. Longworth in 1847, who supposed it had been imported from England; and I also obtained from him the Necked Pine, which proved to be another pistillate of the same Illinois species, although bearing a foreign title.

Prof. Huntsman (our closest observer of the Strawberry) and myself tested both, and we had many a laugh about the supposed voyage across the Atlantic. Mr. Hooper, also, author of the "Fruit Book," who lives within a mile of Cincinnati, states that the "Pistillate Keen" came from Indiana. Many of us were then cultivating the true Keen's Seedling and Imperial, which my father had received from the London Horticultural Society, and which were the same as have been cultivated here and in Europe down to the present period. Neither will produce a good crop unless attended by a Pine staminate. It is at the present time the *male organs* of all the European hermaphrodite Pine varieties, and not the *female organs*, as Mr. Wray, in common with others, supposes, that demand the application of a corrective by staminates.

It is this lack of investigation which has caused in Europe the failures in the culture and crops of the Pine and other Strawberries since the commencement there of the destruction of the staminates, and which has also given rise to the many *outre* speculations on the subject which have been advanced on that side of the water. Duchesne long since recognized the sexuality and diceious character of the *Fragaria elatior*, (*Hautbois*), and was reprimanded therefor by Linnæus; but, like the more modern European cultivators, he failed to penetrate deep enough, and to thereby realize the great importance of this fact, by adopting a course of culture based thereon.

As the discovery made by Mr. Keen concerning the sexuality had reference only to the *Hautbois*—an European species—and as the practice of sexual combination of our American varieties existed here antecedent thereto, and of course long before Arbigust carried the supposed secret to Cincinnati, the fanciful supposition of Mr. Wray, that Mr. Arbigust, the German market gar-

dener of Philadelphia, obtained his information from Mr. Keen, can have no foundation whatever.

Mr. Wray further remarks, that "after Keen, a Monsieur Duchesne arrived at a similar knowledge of the sexual differences in the Strawberry." But as Monsieur Duchesne was a cotemporary of Linnaeus, and announced his discovery long before Keen was born, we can scarcely accord to the latter the credit of originality, however desirous we may be to aid in the beautiful harmony manifested by Mr. Wray and Dr. Lindley on this one point—that all the germs of intelligence first emerge from the fogs of Britain. The most astonishing fact, however, is, that the savans and cultivators of Europe have hitherto completely ignored the discoveries of both these investigators, as regards their scientific application and benefits to the Strawberry culture.

#### THE NATIVE LOCALITIES OF STRAWBERRIES.

*Europe* presents us with three species, which in their normal state all produce fruit of small size. Two of these species have hermaphrodite flowers, and the third (*Fragaria elatior*) combines male, female, and hermaphrodite flowers. These European species are :

**FRAGARIA VESCA**—The Wood and Alpine Strawberries.

**FRAGARIA CÖLLINA**—Green Pineapple Strawberry.

**FRAGARIA ELATIOR**—Hautbois Strawberry.

**FRAGARIA MONOPHYLLA** of Linnaeus does not exist as a species, it being a variety of *F. vesca*.

**FRAGARIA STERILIS** of Linnaeus has proved to be *Comarum fragarioides*.

*Asia* presents us with one hermaphrodite species :

**FRAGARIA INDICA**, producing yellow blossoms, whose fruit is not edible.

*Note.* Both Linnaeus and Miller supposed, and so stated, that the *F. elatior* (*Hautbois*) was obtained from America, an error that can scarcely be accounted for.

*South America* presents us with two species, both of which have large foliage and flowers, and fruit of remarkable size, and which comprise in their normal state both staminate and hermaphrodite varieties. These are :

**FRAGARIA GRANDIFLORA**—Pine Strawberry.

**FRAGARIA CHILENSIS**—Chili Strawberry.

**FRAGARIA BONARIENSIS** of Loudon is only a synonym of *F. grandiflora*.

*North America* presents us with six species very distinct in character from all the European and South American species, and producing fruit varying from a medium to a large size.

These species each present in their normal state plants of two characters: 1st, Hermaphrodite or Bisexual; and, 2d, Pistillate or Female.

Of the Hermaphrodite section, there are two divisions; the one combining the stamens and pistils in each flower; and the other producing some peduncles of

entirely bi-sexual and others of entirely pistillate flowers. These American species are :

*Fragaria Virginiana* vel *Canadensis*—Scarlet Strawberry.

*Fragaria Hudsonica*—Hudson's Bay Strawberry.

*Fragaria Iowensis*—Iowa Strawberry.

*Fragaria Illinoiensis*—Illinois Strawberry.

*Fragaria lucida*—California Strawberry.

*F. sericea* of Douglass,

*F. chilensis* of Torrey and Gray,      |      Oregon Strawberry.

*Fragaria Carolinensis* of Loudon has no distinct existence, but is merely a synonym of *F. grandiflora*.

*Fragaria Caroliniana* of Duchesne and Poiteau is also a synonym of *F. grandiflora*.

The European species being hermaphrodite, and but one of the North American species known to Europeans in the time of Linnæus, he supposed that all the species of the genus *Fragaria* were of the same character, and he consequently placed them under the class and order, *Icosandria-Polygynia*, comprising the stamens and pistils in the same flower. The two South American species, which comprise stamine and hermaphrodite varieties, and whose large fruit caused them to be preferred in Europe, are the only species from which the numerous seedling varieties they now possess have been originated, and as but one sexual variety of the *Chilensis* was carried to Europe, there have been only a few hybrids grown therefrom. All the others are seedlings of the *F. grandiflora*, and they are very numerous throughout Europe. These seminal varieties have retained their normal parental character, as this species does not admix with the European and North American species, and could not fully admix, even with its own congener of South America, (*F. Chilensis*), as but one sex of that species had been obtained.

This primeval character, comprising staminates and hermaphrodites, has always been sustained, but the adoption in Europe of an unnatural system based on the extermination of all the staminates, (males,) has resulted in filling the gardens of Europe exclusively with varieties of the hermaphrodite character; and as preference has been there given to these large white fleshed varieties over the scarlet fleshed varieties of the *Fragaria Virginiana*, it has caused an almost total exclusion from their gardens of all the North American species and varieties. The prejudice thus generated has prevented the introduction into Europe of the productive American pistillate or female varieties as well as of the hermaphrodites, comprising the numerous large hybridized varieties which constitute such remarkable improvements over the few North American kinds they already possess, both in the size and flavor of their fruit, in the far greater hardihood of the plants suitable to the most northern climates, and especially in their great productiveness, the latter quality arising from their sexual physical capacities, and from the "Scientific culture of the Strawberry" in the combination of the sexes.

Europe at the present time possesses no female varieties except the pistillate

Hautbois, which she exterminates, and the few pistillate varieties of Virginiana, mostly obtained from America 200 years ago, and two only of our estimable pistillate varieties, which have been recently introduced there; this deficiency having resulted from her fatuity in ignoring the rapid progress made in the Strawberry culture in America during the last fifty years.

*Black Strawberries.*—The varieties which are so called, and classed as a distinct species or family in the London Society's Transactions, are not actually so, but are merely very dark colored varieties of the F. Virginiana or hybrids. No such distinctive division is made by the French and Belgians. The Downton is a seedling of F. Virginiana, and others may be hybrids, such as Black Prince, Hovey, &c.

In Johnson's Dictionary of Gardening, this section is distinguished as "*F. vesca nigella*," but as *F. vesca* is European, and all the Black Strawberries are from American species, the author could not have been very conversant with the subject.

Mr. T. A. Knight, when President of the London Horticultural Society, raised a large number of seedling Strawberries, from which he selected about twenty varieties, which were described in the Society's Transactions, but these were grown from seeds injudiciously selected, without any proper regard to sexual hybridization, and it would seem that he was then, as Dr. Lindley has been since, ignorant that such sexual distinctions existed, although he had seven pistillate varieties in the Garden over which he presided. The varieties produced by him have, in consequence of their inferiority, been long since abandoned. Mr. Knight considered the F. grandiflora or Pine, the Chilensis or Chili, and the Virginiana or Scarlet, to be only varieties of one species, as all these (he says) may be made to breed together indiscriminately. This is a radical error. The first two species will blend with each other, although they are very distinct, but these two differ so entirely from the Virginiana that they never commingle therewith.

The collection of the varieties in the Horticultural garden being a general one, the pistillates were fertilized by the adjoining hermaphrodites, and as Dr. Lindley appears to have exercised no scientific scrutiny, he failed to ascertain the fact that some varieties do not possess both sexual organs, and that the productiveness of what he would have otherwise termed "sterile" plants, was the result of the accidental application of the same combination of the sexes which has proven so successful in America, but which has been denounced by him for twenty years as having no scientific basis.

In my next communication I shall discuss "*The Scientific Culture of the Strawberry, with its Sexual Physical Character*," as applicable to all the species in their relative productiveness; after which I shall take up the question of *American Grapes*, and refer to the gross prejudices and ignorance existing in Europe on this most important subject; and in a subsequent article I shall discuss the *Currant Question*, as a rejoinder to a response and attack which appeared in the *Gardener's Chronicle* in regard to an article I wrote on that subject in the *Rural New Yorker*.

[The length of Mr. Prince's elaborate article precludes remark.—Ed.]

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, New York. Packages by Express and City advertisements to 25 Park Row. Exchanges should be addressed to "THE HORTICULTURIST."

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OUR NEW VOLUME.—We send out this the first number of our new volume, anticipating for it a generous welcome, not only from our old friends, but from many new ones. To the extent of our time and means, we have toiled for them faithfully; though conscious that we have not done all that we might, we nevertheless leave our labors to speak for themselves. We shall strive in the future to make the HORTICULTURIST every thing that it should be; we may fall short in some things, but it will not be for want of a desire to excel in our labor of love. The nation is passing through a terrible ordeal, in which our constancy, courage, and love of country are being sorely tried; but the Union will not be divided, for there is no line where a division can be made. We shall come out of this war as we went into it, a united, and, let us trust and pray, a wiser and better people. In the mean time, we shall need all the "aid and comfort" we can get from our friends, and from our enemies too, if we have any. Thus far they have been afforded to a degree which we could hardly have hoped for, and for which we are grateful. We shall strive to deserve their continuance. It will not be out of place here to thank a large number of our friends who have sent us letters of congratulation and commendation. It is always a satisfaction to know that our labors have, to some extent, been appreciated; besides, it acts as a stimulus to still greater exertions in the future. All these sentiments of kindness, and much more, we most cordially reciprocate. May a kind Providence give them abundantly of all good things. And thus wishing, we send greeting to all our readers—a *Happy New Year*.

THE PINEAPPLE.—(See *Frontispiece*.)—We have for some time back been experimenting in Photography, (or, more strictly, Mr. Morand has been doing it for us,) to ascertain how far this beautiful art could be made available for illustrating our magazine. Mr. Morand, who is one of the earliest as well as one of the best artists in his profession, has at last succeeded in giving us portraits of fruits and flowers incomparably superior, in our estimation, to any lithograph that can be made. A photograph costs us more money

than a lithograph; but the former, besides presenting an exact portrait, is in all other respects so much better as a work of art, that we shall endeavor hereafter to give all original subjects in the form of a colored photograph for our colored edition. We did not, however, find a person who could color these photographs to suit us in time for the present number, and we had recourse to a subject that could be presented without color. This we found in Mr. Chamberlain's Pineapple in one of his moss baskets exhibited at the Brooklyn Horticultural Society, and which, on application, he promptly placed at our disposal. We selected this the more readily, because we find that a great many people suppose that Pineapples grow on large trees. If there are any such among our readers, we desire to say to them, that our frontispiece presents a full-grown plant, basket and all, the height being about three feet. The card on the plant has an inscription on it, which the reader can make out with the aid of a magnifying glass. For the plain edition we give a fine wood-cut of the same subject. Having compared some of our best wood engravings with our lithographs, we could not help being struck with the better artistic effect of the former, and therefore determined to give one as a frontispiece to the plain edition, printed on fine paper with the best ink. These changes involve an additional outlay, which we shall not feel warranted in making during these hard times, unless they meet the approbation of our subscribers; we should, therefore, be glad to hear from them on the subject. We do not think our readers can help being greatly pleased with the photographs we have in preparation; and we shall take no little pride in having been instrumental, in illustrating our fruits and flowers, in securing the aid of the very power that is materially concerned in growing them, and developing their perfections.

MR. RICHARDSON'S SEEDLING DAHLIAS.—We have heretofore spoken of some of these fine seedlings, especially *Mrs. Richardson*, a large blush white, of fine form and good substance, and *Emma Cheney*, a lovely rosy red, very distinct, and of remarkable merit. We selected a number of others possessing decided merit, very much too good to be lost to the world, and advised Mr. Richardson to send them out. This, we are glad to learn, he has concluded to do, and has accordingly placed a portion of them in the hands of Mr. Peter Henderson, of Jersey City. We have named them as follows: *Carrie Emmons*, in the style of Lollipop, but an improvement; size medium, form perfect, petals finely cupped, and of faultless symmetry. *Debbie de Gray*, light amber, edged with rosy purple; a dome-like form, well up in the centre; cup-petaled, of good substance, and very constant. *Jeannie Tomkins*, a bright golden orange, fine in form, color, and petal, and of good substance. *Charles Downing*, a rich amethyst, beautiful form, high and full centre, fine petal, good size, and constant. *John W. Degrauw*, a bright scarlet of beautiful form, cup-petaled, very full, high centre, and great substance and constancy. *Dr. Knight*, a fine bright yellow, full, fine form, high centre, and very constant. *Mary Green*, pure white, beautiful form, high, full centre, perfect arrangement of petal, and great substance. *Frank Smith*, deep, clear red, fine

form, cup petals, and great substance and constancy. There are several others very fine, which will be named at another time. The above are an exceedingly fine lot of Dahlias, and will not suffer by comparison with the best yet imported; they have the advantage of having been tried, and found adapted to our climate. We shall give a portrait of Emma Cheney, and probably some others.

A NEW USE FOR CRINOLINE.—A lady correspondent of the *Cottage Gardener*, who signs herself "Kate," says: "The fruit trees in my orchard house have been much blighted this year; tops of the young shoots curl up. I have, I think, destroyed the fly now. Not being able to smoke the house in the ordinary way, I have used a lady's crinoline. I bought a cheap one covered with glazed calico, pulled it up round a pole, making it as close as possible. It is just the size to cover one of Mr Rivers's miniature trees. I use Gedney's Fumigator, and leave on the crinoline till the next morning. I then syringe the trees. The fly has no chance against the tobacco in so small a space, and the tree does not appear the worse." For standard trees we suggest the use of that style of crinoline sometimes worn in New York omnibuses.

PROTECTION AGAINST MICE IN WINTER.—The mischief committed by mice during the winter in gnawing trees is not only an annoyance, but often a serious loss. Various preventives have been suggested, and we have recommended some which we know to possess more or less merit. Being recently at the fine residence of B. Vaughan, Esq., we observed that all the trees in the orchard house were protected by tin, and was assured that it had always proved effectual. A piece of tin six or more inches long, and wide enough to meet the circumference of the tree, is rolled around it, and pressed a little into the soil; in other words, the stock of the tree is inclosed in a small tin cylinder from the surface of the ground to a height of six or more inches. In the spring the cylinder is unrolled and removed, to be replaced again the following fall. A similar contrivance, made of zinc, we should think would prevent the borer from entering the peach and other trees; at all events, it is simple, cheap, and worth trying. The borer will, however, sometimes enter the peach a foot or more above ground when cut off from below; but then he is more plainly in view, sooner discovered, and easily killed.

A NEW USE FOR APPLES.—The following, from the *London Times*, may be of interest to some of our readers: "We are threatened with a cider famine, not from the failure of the apples, although a partial crop, but because they are likely to be applied to a more profitable purpose (so far as the growers are concerned) than in making a household beverage. It seems that the Manchester calico dyers and printers have discovered that apple juices supply a desideratum long wanted in making fast colors for their printed cottons, and numbers of them have been into Devonshire and the lower parts of Somersetshire buying up all the apples they can get, and giving such a price for them as in the dearest years hitherto known has not been offered. We know of one farmer in Devonshire who has a

large orchard, for the produce of which he never before received more than £250, and yet he has sold it this year to a Manchester man for £300. There can be no doubt that the discovery will create quite a revolution in the apple trade."

THE BROOKLYN HORTICULTURAL SOCIETY—OFFICERS, ETC., FOR 1862.—The Society has elected the following officers and committees for 1862:

*President*, John W. Degrauw; *Vice-Presidents*, S. J. Eastman, J. A. Wallace, Lyman Burnam, R. W. Ropes, H. M. Barnes; *Treasurer*, J. W. Degrauw; *Corresponding Secretary*, C. B. Miller, 29 Broadway, N. Y.; *Recording Secretary*, J. C. Marin; *Librarian*, J. C. Sidell; *Executive Committee*, P. B. Mead, Geo. E. Woodward, Geo. Hamlyn; *Finance Committee*, Walter Park, R. W. Ropes, H. M. Barnes; *Library Committee*, C. B. Miller, S. B. Brophy, J. C. Sidell; *Publication Committee*, L. A. Roberts, Geo. E. Woodward, S. B. Brophy; *Premium Committee*, A. S. Fuller, E. Scott; *Committee on Fruits*, Geo. Gamgee, W. I. Reddy, J. Dailedouze; *Committee on Plants*, Andrew Bridgeman, Robert Murray, G. Messelberg; *Committee on Vegetables*, G. Marc, A. G. Burgess, O. Zellar; *Inspectors of Election*, Geo. Ingram, Geo. Hamlyn.

The regular business meetings are held at the Athenæum on the first Tuesday evening of each month; the conversational and exhibition meetings on the second and fourth Tuesday evenings of each month.

ADVERTISEMENTS.—Our time for receiving advertisements expires on the 20th of each month. We should be glad to have them sent in early. Be particular to state how much space is to be occupied. Each advertiser should regulate this matter for himself.

STATEN ISLAND HORTICULTURAL SOCIETY.—The following is a list of officers of this new society: *President*, Francis G. Shaw; *Vice Presidents*, Mr. Rainsford, John Thompson, Mr. Mendall; *Corresponding Secretary*, William Elliott; *Recording Secretary*, William G. Ripley; *Treasurer*, John Jewett, Jr.

THE HOMESTEAD.—We had learned, with deep regret, that the *Homestead* was to be discontinued, but deferred making the announcement, in the hope that some means would be found to continue its publication. In this we have been disappointed. It has now been merged in the *Agriculturist*. The *Homestead* has always been a favorite with us, and we shall miss it with its well-stored pages. That there should be any necessity for suspending such a valuable paper, with such an able and genial-hearted editor as Mr. Weld, is a sad comment on the times in which we live.

FRUIT GROWER'S SOCIETY OF WESTERN NEW YORK.—The annual meeting of this Society will be held at the Court House in Rochester, N. Y., at eleven o'clock A. M., on Wednesday, January 8, 1862. Our friends there expect a fine show of fruit, which we hope may be the case. Will Secretary Bissell be so kind as to send us an abstract of the proceedings?

THE PÆONY.—Mr. Prince, we see, has in the December number of the *Garden*,

dener's *Monthly* begun a series of articles describing the different species of the Paeony, a most interesting group of plants, many of them by no means as well known as they should be.

TUCKER'S ILLUSTRATED ANNUAL REGISTER.—The Annual Register for 1862 presents more than its usual claims. The matter is very judiciously selected and condensed, every thing superfluous being pruned off. Besides the Almanac proper, there are many solid and very useful articles on various subjects interesting to the farmer and gardener; among others, an excellent article on farm buildings, a very interesting article on the growth of plants, another on grasses, one on lightning rods, a very elaborate, practical article on "balloon frame" buildings, by Mr. Woodward, an excellent article on movable comb bee-hives, by Mr. Quinby, and many others, the whole edited by Mr. John J. Thomas. All the above are profusely and handsomely illustrated, which gives them an additional value. Mr. Woodward's article alone is worth many times the price of the Register. The Messrs. Tucker are entitled to much credit for the manner in which this useful little volume is got up. It is for sale by them, and also by Mr. Saxton, 25 Park Row, New York. The price is 25 cents.

Descriptive Catalogue of Fruit Trees, Small Fruits, Grape Vines, Rhubarb, etc., cultivated and for sale at the Cherry Hill Nurseries, West Chester, Pa. *Hoopes & Brother*, Proprietors.

An Address delivered before the Oswego County Agricultural Society at Mexico, September 11, and before the Franklin County Agricultural Society, September 13, 1861. By LUTHER H. TUCKER.—An able and very interesting Address, published by request, and worthy of an attentive perusal.

The Journal of the New York State Agricultural Society for December, 1861.

Mount Hope Nurseries, Rochester, N. Y., *Ellwanger & Barry's* wholesale Catalogue or Trade List of Fruit and Ornamental Trees, Shrubs, Roses, Dahlias, Bulbous Roots, Border Plants, Seedlings, etc., for Spring of 1862.

*Isaac Buchanan's* General Catalogue of Green-house, Hot-house, and hardy Plants. Nursery, Astoria, L. I. Conservatory and office, 9 West 17th st., New York.

Descriptive Catalogue No. 7: Bulbous and Tuberous Roots.—*Andrew Bridgeman*, No. 878 Broadway, New York.—A very choice Catalogue of Hyacinths, Tulips, Narcissus, Crocus, &c., with directions for their cultivation. These bulbs are indispensable for winter blooming.

The Journal of the New York State Agricultural Society.

Descriptive Catalogue of Fruit and Ornamental Trees, cultivated and for sale at the Prospect Hill Nursery, Massillon, Ohio, by *S. B. Marshall*. 1861-62.

Catalogue of Plants cultivated and for sale by *Peter Mackenzie & Son*, Camellia Place, Broad street and Columbia avenue, Philadelphia, Pa.

Patriotism of the Plow: an Address delivered before the Queen's County

Agricultural Society at the Twentieth Annual Exhibition, at Flushing, L. I., October 3, 1861. By Richard C. McCormick.—An address full of interesting historical reminiscences. It was listened to with marked attention; we shall find room for a few extracts.

New Haven Nursery, Fruit Trees, Evergreens, etc., *F. Trowbridge & Co.*, Proprietors.—Attached to this circular is a brief treatise on the cultivation of the Cranberry, which Mr. Trowbridge makes a specialty.

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## Correspondence.

*Lockport, N. Y.*

GENTLEMEN:—We are sadly perplexed by the conflicting statements and opinions of nurserymen and dealers in fruit trees. We purchased, this fall, of one party, Grape roots, (Delawares,) one year raised from one eye, in pots, under glass. There was a mass of *small fibrous* roots, and but few of any size. The vines are three or four feet long, small, and long jointed. These were claimed to be, and sold for, A No. 1 Delaware roots of one eye, under glass, and as being far superior to a larger, longer, and less fibrous root. We also purchased, of another party, Delawares *one year old*, raised in a novel (to us) manner—in an elevated bed, or border, of ordinary soil, without any forcing or manuring. These roots are large, and average from one foot to three feet in length. The vines from eight to twelve feet in length, and wood well ripened. These are also claimed to be superior to the small fibrous-rooted vine. Who shall decide, when doc-dors disagree? It is claimed by the latter grower that the small, fibrous roots decay when transplanted, and that new fibrous roots are reproduced each year. There is still another point of difference. Some contend that a root raised from a *single eye* is better than a *layer*; and again, that those under glass are superior to open, out-door culture.

Will you be so kind as to give us your opinion on these points of difference among grape growers, through your columns?

We intend to set out a large number of Delawares—probably several thousands—when we can learn definitely what kind of roots to buy. Our *Pear* orchard, in the spring, will be about 1,500 of Dwarfs and Standards.

In this department, also, new beginners are subject to indecision in selections, so many varieties are recommended as *best*. Some say that Dwarfs are a failure—for fruiting for profit, and that Standards are the best and only reliable, and *vice versa*. We have, however, confined our varieties mainly to Duchesse, Louise Bonne, Seckel, Bartlett, and Flemish Beauty.

Yours truly,

J. S. WALTER.

P. S.—I should have said that, in the *elevated border*, the whole was under

glass, and hot water was the medium of heating or warming the Grape house. But no forcing other than this was used. W.

[A general demand for a plant, consequent forcing and use of bad wood, and indifference to his reputation on the part of the propagator, are very much in the way of procuring really good plants; we might add, too, an indisposition on the part of the purchaser to pay a fair price for a well-grown plant. The first plants you describe we should not have selected, though we had not seen the roots: the canes plainly indicated that the roots were not in the best condition: the vines had probably been forced and crowded too close together. A vine duly furnished with fibrous or secondary roots is, beyond all peradventure, better than one not so furnished; but then, fibrous roots, to be good, must have size and substance. As to a choice between a vine from an eye, duly furnished with good fibrous roots, and a layer with long primary roots and few fibres, we have made too many experiments in planting to leave a doubt on our mind. When an experienced planter receives a vine with these long roots, he cuts them in, and his object in doing this is to produce fibrous roots. There are a multitude of reasons why a vine of the first class is better than one of the second. It is true, if not perfectly natural, that each propagator claims his own vines to be best; but we have never experienced the least difficulty in deciding between them, when we could make an examination of their vines. In the sense in which your second doctor manifestly puts the case, it is not true that the fibrous roots decay when the vine is transplanted; neither is it true that they are reproduced every year. We can easily explain what really does take place, but we leave the case thus broadly put in order that our readers may discuss the point, if so disposed. In regard to vines raised from eyes and layers, we have no doubt at all that the first are by far the best, except for a few special purposes. The best kind of vines can be grown under glass, provided they are not forced or otherwise improperly treated. Some native vines can hardly be raised in the open air, and success there is much less certain. Our advice to you, is to purchase vines from eyes, well furnished with strong fibrous roots, bright and healthy: do not misunderstand us as meaning a mass of small, weak fibres. The canes should be stout, (according to the kind,) short-jointed, and well ripened. With such vines, you can not help succeeding, unless you make some very sad mistakes. We think you have done wisely in planting a Pear orchard. If Dwarfs are properly selected as to kinds, well planted, and properly treated, you will find them profitable, unless there are some peculiarities about your soil which unfit it for this kind of culture. Your selection is good, but the Duchesse must be grown only on quince.—ED.]

MR. EDITOR,—Has a lady a right to make a suggestion to the HORTICULTURIST? I think I hear your prompt reply, Yes, and proceed to put it. I am cultivating a few house plants, which give me a great deal of pleasure, but have come to the conclusion that I don't know all about it, and should like to know more of the

exact when, and where, and how. I have such a magnificent Calla in bloom now, by following your instructions, that I am anxious to profit further. I feel quite sure that there are others of your nine thousand readers in a similar condition, so when you answer my questions, for there will be more than one, you may be doing much good to others, especially to new beginners, of whom I conclude you will have many among your subscribers. What I want is something practical, and applicable to the every day culture and management of parlor plants at this season, and also of those that grow in flower beds in the open air, *which a lady prefers to attend to in person, for the pleasure it gives her.*

I have often purchased fine plants from the florist, and on taking them home, found that I could not manage them; they would perish in spite of all my care; were too hot, or too cold; too dry, or too wet; required new earth, or a fertilizer, or something else, which I could not find out until too late, for which reason I have lost much enjoyment; but I have learned much by experience, though I know there are many who would be discouraged by such bad luck. A writer in the October number, Mr. Woodward, says, "The successful pursuit of landscape gardening, like all other liberal arts, depends upon a thorough understanding of results." Now, the cultivation of flowers is a liberal art, and what I want is a thorough understanding of results, and the mode of producing them, which I can not find in any book on gardening or flower culture, nor do I know where to purchase one. What I want is plain directions for ladies who cultivate their own flowers, showing when and how to set the slips or cuttings, how to make them take root, how and when to water, when to transplant, what soil or compost to put them in, when and how to pinch in, which require sun and which need to be shaded, when and how to give air, etc. One plant requires quite different treatment from another, and if any number require the same treatment, let them be grouped together. Let these directions be so plainly stated that no one can mistake the method. Remember that we are more practical than scientific, and wish you to write on common-place topics which educated gardeners know already. We want you to write for your Ladies' Department of the Horticulturist, precisely what you *talk* to the ladies at the Brooklyn Horticultural Society's conversational meetings, in the reports of which I have taken great interest. Consider that but few of your readers can attend those meetings, and when you report that "Mr. Bridgeman spoke of the Gladioli, and how they had been so greatly improved during the past few years," that *we* are still in ignorance of the method. Your explanation of the mode of striking rose cuttings is worth a whole year's subscription to the HORTICULTURIST, for I have tried it, and succeeded. The liberal ideas, too, of the professional gardeners at these meetings is worthy of notice. Mr. Fuller shows his good sense when he advises gardeners, "if they knew of a better way of growing a plant or flower, it was their duty to let the public know it;" and "if one gardener knows how to grow dahlias, or roses, or pinks better than any body else, let him tell his plan." That is the true liberal doctrine, and it will pay too.

Now, Mr. Editor, will you write an article for the readers of the HORTICULTURIST on the culture and management of one flower at a time in your own concise and plain way, and follow this up in each number? Give us practical information. Your elaborate instructions how to plant and cultivate a grape vine, if applied to flowers, would produce many choice gems in our flower beds and parlor windows, and beget a great demand for choice new varieties. Perhaps this may be all very plain and simple to you, who have spent a lifetime in study and practice; but you must not expect us, who make your plum puddings on Thanksgiving day and Christmas, to know it all. Remember, too, that we actually have other domestic duties to perform every other day of the year, and that we are not all butterflies; that we cultivate flowers for recreation, because we love them, and not as a business. You may perhaps say, consult your gardener or florist; but you do not know that they are both old fogies, who are sure to teach me how-not-to-do-it: the one is afraid we shall no longer need him, the other fears we may raise all our own flowers, and need buy no more of him. They are both short-sighted, as I should be more likely to need two gardeners, and to buy two or three new and choice plants where I now buy one, if they encouraged my taste. I read the whole of every number of your HORTICULTURIST, including the advertisements, with much interest, and conclude by assuring you that if you comply with my request, the ladies will take care of your subscription list.

FRANCES MARY.

[Yes, the ladies have a right to ask the HORTICULTURIST any thing they please, and we will do it. For instance, if one of them should ask us to turn into a pollywog, into a pollywog we should turn incontinently; at least, they would expect it. Glad to hear you have a few house plants; what could be more appropriate for a lady? If you don't know all about them, we judge you are in a happy condition to learn; and that is just as it should be. All the girls, as well as you, might have magnificent Callas in bloom, and a good many other nice things, if they really followed our instructions.—Here we have the florist again selling flowers without telling how to take care of them: we have given him a good scolding elsewhere.—Well, how you do put the questions; thick and fast, like the drops in an April shower; but we can stand it; we are used to being out in the rain.—The boys in Brooklyn will all be in love with you after such a meed of praise, which, we beg to say seriously, is just and well deserved.—Oh! Frances Mary, how could you dash the romance out of that last sentence by adding the cruel words "subscription list." No matter, we'll give you the articles on Parlor Plants all the same; but we can not promise the first one till next month. We were full before your letter came to hand.—ED.]

P. B. MEAD, Esq.: *Sir*,—In regard to the proposition now pending before our Society, to allow twenty per cent. commission to members, or, in the words of the resolution, "Every member selling five annual tickets shall be entitled to his own gratis," for one, the thing struck me as very objectionable. I think it would deter

many, who would otherwise canvass their friends, from doing so, and unduly stimulate others, until they would be voted bores, and so disgust people, that out of spite they would *not* subscribe, though they would like to do so. It was argued that what was every body's business was nobody's, and nobody attended to it. If the members will not use all proper means to influence additions without this "consideration," they are a very contemptible lot. I speak of the thing as it is now, and as we hope and have good prospect of making it; in the half-torpid condition in which it has slumbered until the past year, it could not be expected that people would trouble themselves about it; now that they can with a good face do so, I think it a pity this wet blanket should be thrown over them. The gardeners are stupid if they will not; for it is directly to their personal advantage to do so; they and the Society are, or should be, one, and their interests identical. The more they can induce to join, and the more they interest them after they have done so, the more and better customers they will have.

Should think it would be more satisfactory to deal with those who knew what they wanted, and how to treat it after they got it, than with those entirely ignorant. There would be fewer complaints of plants and trees dying, (always the gardener's fault,) if the buyers knew better how to manage them. Perhaps some of the extra smart ones think this is good for trade, that they have to be replaced. I think they are mistaken. Success is necessary to the continuance of any thing; the unlucky ones will soon become discouraged, and cease buying.

On our meetings.—Do you not think there is too much time wasted in laudation? I have no wish to detract from the merits of the Society or Officers, but I think we have had glorification enough, and that it would be better to *do* something rather than dwell so much upon what has been, or is *going* to be done.

What in the world do we want with so many Officers and Committees? A President, Secretary, and Treasurer, it seems to me, would answer for all except the three last committees. This would involve the necessity of an act to alter the Constitution; to avoid that trouble, why not elect the Vice-Presidents from the working members, and fill the other offices and the committees from that body, as I see nothing limiting the number of offices a member may hold?

What is the good of our Library, such as it is, inaccessible to any one except at time of meetings, when no one wants to look at it? If we can not at present afford the accommodation it is conceded we ought to have, at least can not the key be left in charge of some one, to deliver to members when called for? If only this partial use were made of it, I think the Library would increase considerably, independent of purchases.

I am a Free-trader, but judge the object of our and similar societies must necessarily be in a measure local; the "State of Long Island" I should think a wide enough field for ours. I would not exclude foreign exhibitors, but the propriety of allowing them to compete with natives may be doubted. A Flatlands gardener would probably run behind a Delaware one in early vegetables, and yet be entitled to as much credit.

At any rate, it is unjust that *extra* inducements be offered to large foreign exhibitors; they overshadow and frighten away our small home ones, whom it is our especial mission to encourage.

You may say, "But we can not get up a good show without them." You never will with them (in competition)—that is, *our show*.

I think it is wrong that the gardeners are so averse to playing second fiddle, and consider it the duty of every member to bring whatever he has presentable, without regard to his chance for premiums, or whether or not one is offered for what he has to show, but such at present certainly is not their feeling, and on the point above stated think they have just ground for complaint.—BROOKLYN.

[“Brooklyn,” as usual, is pointed and vigorous. There is no member of the Brooklyn Society who more cordially wishes its success, or does more, in his sphere of action, to insure its success. In regard to the commission for new members, it may be open to the objection of associating sordid motives with a duty which ought to be entirely free from them. Each member ought to consider it equally his duty and his privilege to introduce as many new members as possible, and will, if he is a faithful member, and loves the cause for which the society labors. We should be glad to know that the Society could increase its members’ list without this consideration. It has lately shaken off its slumbers, and shown a degree of vitality which encourages us to hope great things from it. We think it is generally understood now that we are to enter the field of *action*; but then this formidable list of Officers and Committees is in the way of that somewhat. The objection is not so much to the number of committees as to their size. We have done a prodigious amount of committee work in our day, and the result of our experience has been to beget a prejudice against large committees: as a general thing, we decline to serve on them. They are admirable contrivances for doing nothing. Whether some reform might not be made in this respect in the case referred to, is a matter for grave consideration.—In regard to the Library, we think the new order of things will work some salutary improvements: let us afford the opportunity.—That foreign contributors compete with local ones is altogether owing to the invitation of the Society itself. They do not ask any special privileges, and we have no doubt they would be very glad to compete in a class by themselves, leaving the local exhibitors to do the same. The Brooklyn Society is under many obligations to outsiders, and we do not think it would be wise to exclude them; “Brooklyn,” we suppose, would hardly propose this. Their presence acts as a healthy stimulus under proper conditions. The prize list could be made to regulate this matter so as to please all parties. The prize list, aside from this “foreign” consideration, is very far indeed from satisfying the “home demand.”—It is plain to us that every member is under obligations to present at the public exhibitions any thing that he may have that is really good, no matter whether a prize be offered for it or not; and it is equally

plain to us that no member has a right to go off in a pet because he has not taken all the first prizes, or even one. We wish such persons could see, if only for a moment, how very unamiable they look. If you do not get the prize this time, go in for the next, and show your pluck.—ED.]

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### HORTICULTURAL SOCIETIES.

UNDER this head we propose to give, in a condensed form, the proceedings of Horticultural Societies. The Brooklyn Society has set them an example which they might well follow with advantage to themselves and society at large. The following are the proceedings of the Brooklyn Society, at the meeting held October 15, 1861, somewhat condensed:

President DEGRAUW in the chair.

Opened by Mr. MEAD.

[As these proceedings have got somewhat ahead of us, we take some liberties with our reporter by condensing our own remarks, and saving a couple of pages. We will simply say, that we commended Mr. Burgess's seedling Dahlia and Daphne cneorum; praised the fine seedling Carnations of Dailedouze and Zeller, besides presenting them a handsome silver cup in behalf of the Society; spoke of the Pears from Mr. Skeele; pointed out the beauties of the rare plants presented by Mr. Hamlyn; explained the mode of girdling Mr. Hite's vine to produce early fruit; expatiated on the fine collection of grapes from Mr. Caywood, of Modena, such as the Concord, Diana, Union Village, Montgomery, etc., during which we gave the history of the Montgomery for thirty years past, spoke of its fitness for cultivation in yards, and called upon Mr. Caywood to state the conditions under which he grew it, to which he responded as follows:]

Mr. CAYWOOD stated that the preparation of the soil made for it was good ground, trenched two feet deep, and applied what manure was necessary; is about as late as the Isabella, or later; agrees with Mr. Mead that city yards is the proper place for it. But in Poughkeepsie they are setting it out by hundreds. It is growing there and producing good fruit.

The large Grape from Mr. Trowbridge's grounds, was from an Isabella vine that had first been layered eight feet; next year 8 feet more; and the third year it would not reach, but was brought up in the passage way, and but one bud above ground. The adjoining vines grow common fruit, while this grows large size fruit: its leaves are not lobed or pointed like the Isabella; suppose it to be a freak of nature.

MR. MEAD—Mr. Caywood has now told us about these grapes, and those present can judge for themselves. In protected city yards, the Montgomery Grape can be grown; but all should be satisfied that Grapes are hardy before planting them, since they are to last a hundred years or more; advises Mr. Caywood to sell it for yards or glass. The Golden Chasselas exhibited by Mr. Wells is like it. If we can find a foreign vine hardy, and that will ripen its fruit, we shall have made an acquisition. Has tried to grow foreign Grapes in open air, and succeeded well with young vines, but when older, the mildew killed them; and others have had the same experience. In city yards, where protected, and stones and brick become heated, it does well; that is somewhat like a house. Reflected heat from walls is also beneficial. Will now take up the regular discussion for the evening: "The cultivation of the Grape in city yards." Propose to commence at the beginning; have not yet done so; can take up side issues again, and discuss the merits of the foreign and native. It remains with you, Mr. Chairman, to call us to order. Called on Mr. Fuller.

MR. FULLER—As Mr. Mead calls up the subject of cultivating Grapes in city yards, I will confine my remarks to that. I think the subject worthy of the attention of the Brooklyn Horticultural Society. There are thousands of vines planted every year, and not twenty per cent. of them succeed; but the success of the few encourages the masses. All should plant more vines, and encourage a luxury that no family ought to do without. The failures are generally from a bad selection of kinds, and bad training.

For one vine, dig a hole four feet square and two feet deep; put in three-fourths soil, and one fourth well-rotted manure, stirred well together; cover the roots four or five inches deep; can

grow grapes in any city yard where there is room and the sun can get to them. The most simple manner of training is that known as the horizontal arm system. The first year grow a strong large cane by pinching in the laterals; the second year cut down and start two canes about eighteen inches from the ground, rubbing off all other buds; grow two strong canes, and the third year cut them down to four feet in length, and bend one to the right, and the other to the left, horizontally; rub off the buds on the under side of the arms, and grow upright canes from the buds above, which will give from three to four bunches of grapes; on some short-jointed varieties like the Delaware, take out every other bud on the upper side, or the fruit will be crowded. The upright canes from the arms should be kept pinched in, that they may not exceed their limits; this ripens the wood and enlarges the fruit. The fourth year cut these canes down to one strong bud each, from which get other fruiting canes. A vine like this is then considered established. If we wish to fruit higher up on the trellis, grow the two arms above the first vine, or twine two vines together until the top of the first vine is reached; then, as before, train the horizontal arms, the vine trained above being planted midway between the two lower ones. Borders in city yards are generally too narrow, in which cases the earth underneath the walk should be enriched, or the vine may be planted on the other side of the walk and carried under it, and they will do as well as in a full-width border. Of varieties, the Delaware is the very best. The Diana is very fine, and has a peculiar musky aroma, not liked by all. The Hartford Prolific is the best early good black grape we have ever seen. Concord is better, but not quite so early. Rebecca is a fine white variety. Allen's Hybrid and Cuyahoga are new white grapes that promise well. These seven varieties will afford much better grapes than are usually eaten here.

Mr. MEAD approved of Mr. F.'s remarks, but he did not say enough about the soil; called on Dr. Grant.

Dr. GRANT undertakes it with reluctance, yet feels that he is able to treat the subject. First, the ground should be prepared of sufficient depth, which is easily done in Brooklyn, and we will go to the matter of enrichment; it must be permeable, but, at the same time, not too open. The vines fail on some Long Island soils that do not have sufficient retaining power; in depth great range is allowed—least, eighteen inches; greatest, two to three feet—below that can not be maintained; that depth, with well-mixed soil, can not suffer from drought if sufficient permeability be had by draining.

Mr. BRIDGEMAN uses thoroughly decomposed manure and fresh virgin soil from old pastures; eighteen inches in depth might do, but two and a half feet is better; use bone dust or chips well worked with soil. No heated manure should be placed in contact with the roots; over-manuring is a common practice, and very bad; a general fault with every body to over-manure small places; they make the soil too rich; has had complaints of roses not doing well, and, on investigation, found them too richly manured. Generally, there is very little good soil in city yards; lime and rubbish are left by contractors, and covered with a slight coating of soil. Make beds far enough from house, so as not to be affected by drought, caused by the heat on the interior of the building, the rubbish filled in around it.

Mr. MEAD said, neither of the speakers has said any thing about the addition of foreign substances; wants something else added besides manure. Add some kind of carbonaceous matter to give permanence to the soil and quality to the fruit; best carbonaceous matter is muck; all gardeners and florists make use of it; advise all to get one load, and put with it a little lime, a little bone dust, and a little ashes, and less manure than usual; does not object to stimulate the vine at first, and without manure it can not be done.

Mr. FULLER wished to know how much is a little lime, a little ashes, &c.

Mr. MEAD, will tell you: Put half a bushel of lime to a load; or spread the load six inches deep, and make it white by sprinkling with lime—a little bone dust is half a bushel. Make a compost of thoroughly rotted manure and garden soil; mix them half and half—presumes Mr. Fuller knows what "half and half" is—fill the hole six inches deep; then put in six inches of natural soil; then two or three inches of compost above the roots; make border six feet wide; if four feet wide, the vines should be six or eight feet apart; if eight feet wide, may be four feet apart. If the border outside of a hole four feet square is good, the vine will run out; a friend had all his vine roots run towards a muck bed near by; where a soil of good kind is furnished vines, roots will leave it with reluctance, and I infer from this they may be fed at home. Had remarked to a professor at New Haven that vines were endowed with a certain kind of instinct, which the professor said could not be so, they not having a nervous system; but certain manifestations in animals are called instinct, and similar ones in plants should be called the same.

Three questions handed in by a lady:

1st. What is the best way to send flower seeds to Australia?

2d. What is the best way to send plants to Australia?

3d. What is the best time to propagate vine cuttings?  
Objected to by Chairman as out of order.

Mr. MEAD—Mr. Chairman, we told the ladies they could ask any thing they pleased, and at any time. Then, again, is a lady ever out of order? (Permitted.)

1st. Seeds can be sent to any country in air-tight cases. They are the best.

2d. Wardian cases are the best known things to send plants in; Mr. Fortune had sent plants to the London Horticultural Exhibition from Japan, which had arrived in good order.

3d. Best time is in the spring.

Mr. BRIDGEWATER—

1st. Fill in between the seed papers with chaff or granulated cork, and place in tin boxes and solder tight.

2d. Received three Wardian cases last summer from Australia; after a three months' voyage the plants were perfectly green and healthy; had great difficulty in tempering them to the air; saved three-fourths; this is the safest way; generally lose half or two-thirds of tender or soft wood plants when imported from England; plants should not be packed too close together.

Mr. MEAD called the attention of those present to the death of Mr. John Humphries, who died that morning. Since the formation of the society he has been one of its most active members, and his loss is a serious one indeed to the Society. As an exhibiter he took a forward and prominent part; was always ready to work, and offered his plants freely. As a grower of specimen plants, he had but few equals, and as a Fuchsia grower no one surpassed him. He will be missed as a valuable member of the Brooklyn Horticultural Society. He suggested all the members should attend his funeral.

One word more about grapes.—Other exhibitors have received prizes for choice displays, and some notice is due to Mr. Caywood, of Modena, Ulster county, N. Y., who has put upon the table, to-night, a choice display of native grapes.

Thanks of the meeting voted.

Suggested that grape culture be continued over to the next meeting. Would appropriate one hour to miscellaneous business, and one hour to the regular subject; an hour or half an hour, how to grow plants or select bulbs, and to answer questions.

Mr. FULLER suggested commencing a little earlier and quitting earlier. Proposed to begin at seven or half past seven, and quit at half past nine.

Mr. CAYWOOD said the falling of the Concord is a new idea to him; does not wish to take exceptions to the source from which it came; his grapes are still on the vine, and exposed to heavy west gales.

Mr. BRIDGEWATER—Other causes than transportation may make the Concord drop its fruit. This remark of Mr. Mead's is not intended to condemn the grape; dropping its fruit is not habitual, and is new to him.

Mr. FULLER had sent the Hartford Prolific 1000 miles without dropping the berry; thinks it all in culture.

Mr. MEAD—The tendency of the Hartford Prolific and the Concord, when fully ripe, is to drop their fruit; he has given the Concord a prominent place; was the first to speak a good word for it; these Grapes have nothing to attach them to the peduncle, no core like the Isabella. As vines get older the berry adheres better; mentions this that all may notice it, and be on their guard; whole boxes of the Concord have come to market this season with detached berries. The Concord Grapes on the table will not be ripe for a week. Directed to pass them around to the ladies, and the Society adjourned until the 29th October.





roots, another term which we shall not find occasion to use. The roots proceeding from the foot roots are called *side roots*, which, again, we shall not use. Then there are *surface roots*, which are roots growing near the surface. Others, again, call all the large roots *tap roots*. The tap root proper is the large central root which descends perpendicularly into the ground; it is wanting in the propagated vine. Roots are also divided into *principal* and *lateral*, and these are good enough terms. We might fill pages with descriptions of roots; but our object is merely to define a few of the leading terms as applied to the vine. We propose to divide the roots into simply two kinds: the large principal roots, which we shall call *primary roots*; and the lateral or fibrous roots, which we shall call *secondary roots*. The former are chiefly concerned in forming a support for the vine, or fixing it firmly in the soil; the latter are chiefly concerned in furnishing it nutriment or food. The term *surface roots* we shall use to denote such of the secondary roots as may be within an inch or two of the surface. They will seldom be so near as this in well-prepared ground, except as the result of mulching or too much shade, or where the primary roots have been brought up by careless plowing.

Having disposed of that portion of the vine beneath the surface, let us proceed to that which is above. That part of the vine between the surface of the ground and the point where it begins to branch, be it higher or lower, we shall call the *trunk*; the point where it begins to branch will be designated the *head*; it is sometimes called the *crown*. There will sometimes be two or more heads to a vine. The branches proceeding from the head, when these are to be *permanent*, will be called *arms*, and the arms will be designated according to their form, direction, etc.; for example, *horizontal arms*, or arms running at right angles with the body and parallel with the surface of the ground. *Wood* we shall divide into *green wood*, *fruit wood*, *annual wood*, *biennial wood*, and *old wood*, this division being sufficient for all practical purposes. *Green wood* is the growing or current year's wood, and produces the fruit, when fruit is produced at all, which is not always the case; *fruit wood* is green wood that produces fruit, sometimes called *bearing wood*; *annual wood* is wood that grew and ripened last year, and produces the green or fruit wood of the current year; *biennial wood* is that which grew and ripened two years ago. All back of this may well be called *old wood*. The wood is furnished with two barks, an inner and outer bark. The inner bark is green and soft, and is closely united to the wood, adhering firmly. The outer bark is dry, being composed of woody fiber, the fibers running longitudinally, which enables the bark to be peeled off readily in long strips; in fact, it peels off of itself when a couple of years old, sometimes causing no little uneasiness in the minds of novices. The color of the wood varies from a light to a very dark brown. The color of the wood may be said to be associated in some sense with the color of the fruit, dark-colored wood usually producing dark-colored fruit. These remarks apply to the annual wood. We may remark here that the term

*water shoots* denotes shoots proceeding from dormant eyes on the trunk, head, old arms, etc.; but chiefly on the lower part of the first; they are unproductive, except in rare cases. The terms *rod*, *cane*, etc., are convertible, meaning one and the same thing, and are applied to either green or annual wood, but usually and most properly to the latter. A cane is either *long* or *short*, (say from one foot to six feet long,) according to the system of training adopted.

The remaining parts of the vine will be described in our next, accompanied by an engraving illustrating the subject, and quite necessary to make it fully understood. This engraving we had hoped would be finished in time for our present issue.

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## LANDSCAPE ADORNMENT.—NO. XX. “ENTRANCES.”

BY GEO. E. WOODWARD,

Civil Engineer and Architect, No. 29 Broadway, New York.

“EVERY place,” says Mr. Loudon, “may be considered as producing three leading impressions on the mind of a stranger, viz.: that called forth by the entrance lodge, gates, and the portion of the approach which is seen through the latter; that which is produced by the first good view of the house obtained from the approach-road; and that which is obtained from the drawing-room windows, after entering the house.”

These remarks were not considered strictly applicable to all places, as natural conditions and situations would very materially alter the manner of treatment. It would be desirable, in the management of large country estates, not to see the house immediately on entering the grounds, but have it come in sight after driving a moderate distance from the entrance. It is better to treat the view of the entrance and the view of the house apart from each other, and so manage the former that it becomes an index to the more important features within. We can call to mind a number of very fine places, not above fifteen acres in extent, in which these three leading impressions have been successfully carried out; or, rather, the attention is not drawn from the first to the second by having both coming into view at once.

The entrance gate, lodge, and accessories, are in many cases the only indications of a finished country seat; and but for something striking of this description, one might drive along almost unmindful of its existence, it being a frequent occurrence to plant out the highway in such a manner that no view of the grounds can be obtained from it.

An entrance should be spacious and attractive, and so planned as to admit of a display in planting both outside and inside the inclosure. If properly executed it forms one of the most agreeable attractions that arrest the eye of the

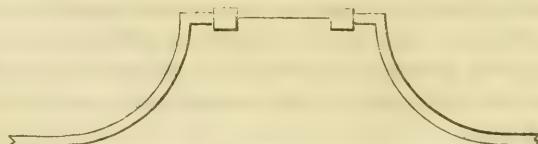
passing traveller or the visitor who enters the premises. A spacious foreground indicates importance, and is an embellishment that may be adopted to good advantage where the wish is to convey an impression of magnitude or extent; care should be taken, however, to keep all improvements within the bounds of a reasonable proportion, and to make use of none but what would be appropriate to all other surroundings.

A very common defect, not always to be avoided, is having an ascending grade from the highway; it is far better to fix upon a level space, and let it extend at least thirty feet each side of the gate; it is easier for horses to stand while the gate is being opened, and they have less difficulty in starting than they would have on an up grade.

The position of the gate should be at least thirty feet from the customary travelled track of the public road, so that a carriage may turn out and admit other vehicles to pass while the gate is being opened.

As a general suggestion, it is best that the approach road should leave the public road at right angles, and take its direction at the most suitable point beyond forty feet from the gate; but as no general rule is applicable to all cases, we find it necessary to depart from this in many instances, and particularly so when the ground rises rapidly. We have repeatedly found it advisable, in practice, to enter obliquely, and to run the approach road nearly parallel with the highway for a considerable distance, and by so doing attain the elevation on which the house was situated by an easy and regular gradient. This, we know, is breaking down a rule that every novice believes has no exception; but experience will teach that it is the principles of landscape gardening, and not rules, that are applicable in all situations. Cases frequently occur in which impracticable obstacles between the best position for the entrance and the house render it absolutely necessary to override all so-called rules. We have had occasion to disregard many of them in practice. A bend in the public road, an oblique junction of two roads, or a corner, are quite frequently found to be very suitable places for an entrance.

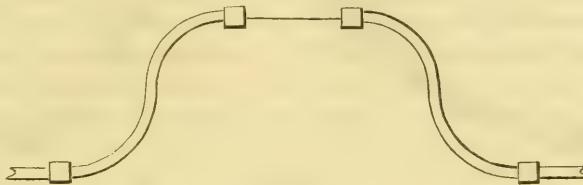
The accompanying plans are among the best that we have seen, and may be altered to suit almost every taste. A gate set in the straight line of the fence, without any foreground, would be the most simple. Plan No. 1 gives a foreground



No. 1.

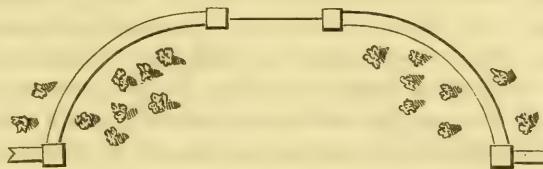
without using any more land than is necessary for the road, but does not admit

of any exterior planting. No. 2 has both the convex and concave curve, and admits of more variety in embellishment. No. 3 is the most common and the



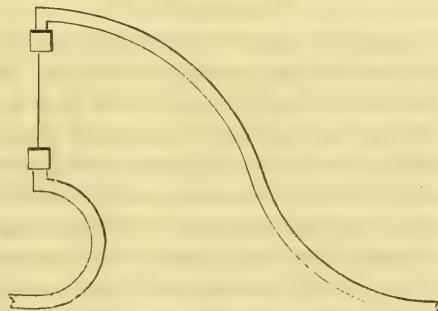
No. 2.

least contracted of the three symmetrical designs, and is preferable to Nos. 1 and 2. An opportunity is here afforded for a display in planting.



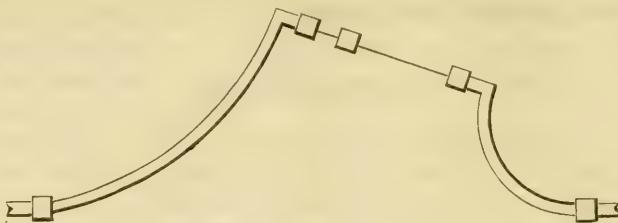
No. 3.

In either of these three, changes can be made by increasing the width and depth of foreground, or by making the curves flatter or sharper. If a small gate is wanted, it can be introduced without altering the general plan.



No. 4.

No. 4 is sometimes used when the situation of the ground compels an abrupt turn; it also prevents an inspection of the premises from passers-by.



No. 5.

No. 5 is a modification of No. 1, more spacious, and applicable where the travel is mostly in one direction, as towards a village or dépôt.

All the accessories of an entrance, as the lodge, the foreground, the road, etc., should be treated as an independent feature ; it should, in fact, be a little landscape of its own, with its embowered cottage, its lawn, its shrubbery, and its wood, which last, as Sir Henry Steuart says, "surmounts all obstacles and cures all deformities. Wood is so beautiful in itself that it throws its own delightful character over every thing which it touches. If your ground be high, it will give it shelter ; if tame and flat, variety and elevation ; and if it be irregular and deformed, it will oftentimes convert those seeming obstructions in to playful intricacy and unexpected beauty."



#### BROAD-LEAVED EVERGREENS—THEIR WINTER PROTECTION.

BY "PROFESSIONAL."

BROAD-LEAVED Evergreens, or others than Coniferæ, are still the great want of ornamental gardening in the Northern and Middle States. And although, during the past few years, numbers of experimental trials have been made to test the hardihood both of old favorites and newly introduced plants, yet it can not be said that the results have proved very satisfactory ; and excepting the *Pinus* tribe, few will be found added to our collections as perfectly hardy and fitted to endure the severity of our winters without protection. It is not enough that a plant holds its foliage and does tolerably well when planted in the shelter of a thick wood, or surrounded with a dense mass of Spruces or other hardy evergreens ; it should be able to stand alone, and in such positions as are required, where it can be seen and admired in all its beauty.

When the Deodar Cedar was first introduced, hopes were raised of having a splendid addition to our hardy evergreens ; but the test of a few winters has nearly destroyed them all, and north of Philadelphia, I might almost say of Balti-

more, it is entirely neglected as unsuited to the climate. True, in favorable winters, and we sometimes have several together, it flourishes pretty well, losing, perhaps, only its leaves; but then comes one of extra severity, and the plant is either entirely killed, or so permanently injured as to become an eyesore wherever seen. The same might be said also of the *Cryptomeria*, the *Redwood*, (*Taxodium sempervirens*), *Libocedrus decurrens*, L. *Chiliensis*, *Cunninghamia Sinensis*, *Araucaria imbricata*, *Cupressus funebris*, *C. torulosa*, *Podocarpus coriacea*, *Euonymus Japonicus*, E. *fimbriatus*, *Ligustrum Japonicum*, *Ilex cornuta*, together with a large lot of such old favorites as the *Portugal Laurel*, *Sweet Bay*, *Laurustinus*, *Aucuba Japonica*, *Magnolia grandiflora*, *Olea fragrans*, *English Hollies*, etc. Some of these are seen occasionally planted out, and protected in the winter by coverings of straw, mats, boxes, or barrels; but at best these only partially effect the purpose, for in the spring, when uncovered, they are usually sadly shorn of their beauty, and present a sorry picture of dead leaves and injured shoots. An objection to such coverings, besides the trouble, more particularly when the plants attain any considerable size, is, they give a lawn or garden a bald appearance, worse even than deciduous shrubs.

Now, then, we can not afford to discard these altogether, and they take up too much room in an ordinary green-house, which can be better filled with *Camellias*, *Daphnes*, *Acacias*, and other choice winter-flowering plants.

The simplest and most effectual plan for preserving them in health during the winter is sheltering them in underground sheds, such as are commonly used by nurserymen for storing young stocks or newly imported trees in the winter season. A shed of this kind is easily constructed, and at a small cost, and when properly done will effectually keep out frost without the aid of fire-heat. Choose a spot that can be readily drained if necessary, and excavate to the depth of, say, five or six feet, and of a width of about fifteen feet; build up the sides with brick laid in cement, (or, if the sub-soil is gravel or sand, locust posts and plank can be used,) to the height of a foot above the surrounding surface, leaving a place for an entrance at one end. On this wall construct a roof, a span, resting on a plate, with spaces for sashes on either side. A shed thirty feet in length would require five sashes, three on one side and two intermediate on the other. The eaves should project sufficiently over to carry from the wall all water falling on the roof. Shutters for the sashes should be provided for severe weather. The roof should be ceiled inside with tongue-and-grooved boards, and all thoroughly painted.

Grown in large pots or tubs, your plants can be stored in the winter season, and in the spring readily removed to the lawn or terrace. If grown in pots, when removed to the garden plunging to the rims in the earth will be found advantageous. A number of plants, however, will be found to require neither pots nor tubs, as their yearly removal will cause them to have perfectly matted balls of fibres, which can be preserved entire; and when removed to the shed and covered with earth, will be found fresh and healthy in the spring. The number of plants

that can be preserved in a house of this kind is surprising; and not the least of its recommendations is its economy, as it requires no expense for fuel, and trouble attending fires. Watering will occasionally be required, and on fine days air should be given.

In addition to the plants already named, the following would succeed admirably, viz.: *Agapanthus*, *Berberis Fortunii*, *Mahonia Bealii*, *Illicium*, *Agaves*, *Pittosporum*, *Pomegranates*, *Escallonias*, *Myrtles*, *Tritomas*, *Hydrangeas*, *Erithrynas*, *Brugmansias*, *Cape Jasmins*, *Oleanders*, *Figs*, etc.

[The above, from an enthusiastic lover of evergreens, possesses a peculiar value, and will be read with interest by every one who has a lawn. A shed, such as he recommends, ought to be an accessory to every man's place; besides the plants named by "Professional," there are scores of others that might find a place there. The suggestion is a valuable one, and would probably carry greater weight with it were we at liberty to give "Professional's" name. Suffice it to say, that he is known and appreciated all over the country as one of our most accomplished horticulturists, and we have to regret that we can not bring him out oftener.—ED.]

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## MOSS A VERY VALUABLE ADDITION TO THE SOIL FOR POTTING PLANTS.

BY HORTICOLA.

SEVERAL years ago I read, if I mistake not, in a German magazine for Horticulture, that dried and pulverized moss from trees, and the large roots of trees exposed to the action of the atmosphere, were a very useful addition to almost all kinds of soil used for potting plants. When the potting season arrived I did not think of it, and it was not until last spring that I tried it as an experiment. The confidence I had in the advice was so much rewarded by surprising results, that from that time I have hardly ever potted a plant without the addition of some dried and pulverized moss.

As soon as the moss is gathered, I dry it in an oven till it is easily reduced to a coarse kind of powder by rubbing it with the hands. Then I rub it through a common coal-sieve. Of the coarse powder obtained by this process, I add more or less to the soil. As it makes the soil porous and light, fertilizing it in a high degree, it is impossible to determine the proportion in general; for this depends upon the nature of the soil, as well as on the plant to be potted. Frequently I take a good handful for a seven-inch pot. It never sours the soil; consequently there is no danger in taking too much.

All my plants, except the *Cactæ*, are at present growing in soil mixed with moss, and I must confess that I never before saw them as vigorous and healthy.

Amaryllides, Lilia, Gloxiniæ, Passifloræ, and a large number of other perennials, are thriving in soil so prepared, as well as annuals; *i. e.*, Reseda odorata and Linum grandiflorum rubrum, of which I have some specimens grown in the form of little trees, covered with blossoms and buds. They bid fair to be in bloom during the whole winter.

Moss may be mixed at pleasure with heavy and light soils, improving them both. Any one that will try the addition of moss to the soil will very soon feel induced to adopt it as a general rule.

[And we have no doubt at all that they will thank you for calling their attention to it. The moss acts both mechanically and chemically, and we should judge it to be a good addition to any soil. Charcoal and moss make an excellent compost to strike cuttings in.—*Ed.*]

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## CRAFT MYSTERIES.

BY BROOKLYN.

It is rather late in the day to attempt to preserve the above, and the disposition to do so manifested by some goes to prove what I have before ventured to hint, *viz.*, that the gardeners, as a body, are much behind the age, and in need of enlightenment.

The discussions of our Society meetings have taken what I think a very desirable, interesting, and practical turn; one much calculated to benefit both the gardeners and the public. Part of the former complain that some of their number are telling all they know; (*more, perhaps, than they—the other ones—do;*) that it is not right; it will injure business; their occupation will be gone when every body understands gardening as well as they do. I think this a mistake, and am glad to see that the more enlightened and liberal-minded of their body agree with me. Any one following a pursuit as a business, if competent thereto, has advantages over one occasionally dabbling in it, that defy competition. I think I could make a packing-box as well as any carpenter, but, supposing my time to be worth no more than his, it would cost me double to do so. I could kill and dress a pig as well as any butcher, yet prefer to buy him in the shape of bacon. These men seem to want to treat the public like a lot of children out for a holiday. “You may come and look at our pretty things, but you must be good boys and girls, and not ask any questions.” They justly lay themselves open to the suspicion that they are afraid the pupils may get to know more than their masters; they fear they should find out how little, rather than how much, they know. The subject of Horticulture is so exten-

sive that none need feel ashamed to confess ignorance when it is the case ; if a man thoroughly understands the particular branch chance or taste has thrown him into, it is all that can be expected of him.

Occasionally discoveries may be made which it is to the interest of the person, for a time at least, to keep to himself; but nothing has been, or is likely to be elicited at these meetings, which ordinarily intelligent persons could not learn if they felt interested enough to study the matter, and read a little.

The necessity that exists for proper structures and constant attention is a sufficient guarantee against enthusiastic amateurs raising all the plants, and spoiling business. Those who may attempt it without the proper appliances, and who, as they will, give it up, will be less likely to grumble at prices of plants, knowing, as they do, the trouble and expense of producing them.

Finally, to these non-progressive gentlemen I would say, do not be afraid of your customers leaving you ; the more they know the more they will want to know ; the more they will spend with you, and the more they will respect your knowledge, if you have it. If you find they are getting ahead of you, set to work and make use of the advantages you possess to perfect yourself in your profession. If the saying, that a man is never too old to learn, is true at all, it certainly is in gardening.

Remember, also, that silence does not always mark wisdom ; and if you do not possess "the gift of the gab" yourselves, do not carp at your brothers of the guild who do.

[Brooklyn, it will be seen, is after the gardeners again. If his object is to bring them out, he will doubtless succeed, for he has put them on their defence. We, of course, think it is a great mistake to suppose that the spread of horticultural knowledge will ruin trade, otherwise we should cease at once from editing this journal ; for we would not wittingly assume the grave responsibility of ruining our fellow-men. No fact in economics is better established than that a thing is used just in proportion as its uses are understood. There is nothing in horticulture or gardening exceptional to this. The more people understand how to grow plants, the more of them they will buy. They are not like toys that may be preserved in a case to look at, but objects that can only be kept with a knowledge how to keep them ; hence, without this knowledge they would become useless, and cease to be sought for. We think it may be stated as an axiom, that the knowledge of plants and the sale of them will go on *pari passu* ; or, to put it mathematically, that the sale of plants will increase as the squares of their knowledge ! There, "Brooklyn," how does that suit your mathematical head ? A gardener may, if it suits him, keep to himself his peculiar mode of propagating plants ; but if he sells them, by the very act he assumes the moral responsibility of telling the purchaser how to take care of them ; and the more gardeners spread

knowledge in this way, the more plants will be sold. We trust they will all regard this matter in its true light, and unite together in spreading the knowledge of plants through all the land.—ED.]

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### MILDEW ON ROSES.—BUDDING ON MANETTI.

BY HAMMOCK PARK.

THIS fungus appears likely to become as destructive to the Rose (if indeed it is not so already) as it is among the vines. A few years ago it was confined to a few plants, or to some one or two varieties, but latterly it has attacked most of our roses during July, August, and September, and materially injured the autumnal bloom. Some kinds are more subject to it than others, and the Hybrid Perpetuals more so than any other class; but latterly, even the Bourbons, Teas, and Chinas, have taken it. Flour of sulphur is the best remedy with which I am acquainted. I have used the Gishurst Compound and Pages' Composition, but I was not very successful with either. I always found the sulphur to have the best effect; and this must be applied as soon as the disease makes its appearance, and persevered with afterward, or it will have little effect. It should be dusted on when the foliage is wet; early in the morning, when the plants are moist with dew, is about the best time for the application. If the sulphur gets washed off by rain, or blown away by the wind, it should be looked after, and the sulphur reapplied the next morning.

If the plants are in pots, the most effective way to apply the sulphur is this: take the plant and immerse it in a pail of water till every part is thoroughly wet; then hold it upside down, and dust on the sulphur. The sulphur being put on the under side of the leaves, it will not make any *show*, and will remain on longer without being washed off, and will be more effective in killing the mildew. Before commencing to dust on the sulphur, lay down two or three newspapers to catch the sulphur that would otherwise be wasted. It can be readily gathered again when dry.

I have used it on Chrysanthemums in the same way, and on grape-vines in pots. It looks much neater when applied in this way than when applied to the upper side of the leaf.

*How to bud the Rose and root the Manetti stock the same season.*—Take Manetti stocks that have been growing two years or more in the same place, when they have made shoots three or four feet long, which will be about the first of August; they are then ready for budding. Bud them about two and a half or three feet above the ground. Be careful to cut all the buds off the Manetti stock for about six inches below where you insert the bud; this is to prevent suckers hereafter. When the buds have taken and commence to swell, and you are going over them

to loosen the bass, is the time to layer the Manetti stock. The buds having been cut off the Manetti below the *rose* bud, you will then proceed to layer the stock in the usual way of layering, suiting your own fancy as to the height the stock should be; but I always found four inches of stock to be quite sufficient, so that, when they are transplanted finally, the whole of the Manetti will be below the surface of the ground. If they are budded and layered early in the season, they will strike roots finely by the fall, when they should be taken up and hilled in a cold frame till spring, then to be planted out. When treated in this way they make very superior plants. This system is extensively practiced in the largest rose-growing establishment in western Pennsylvania. When you layer them, cut the top off the Manetti above the bud; this will encourage the bud to start; but if they are budded late in the season they will lay dormant till the following spring.

[Sulphur is generally regarded as a specific for mildew in its ordinary manifestations; it sometimes fails in consequence of its application being too long delayed, or in cases of great virulence, as was the fact with the oidium in Madeira, Portugal, and elsewhere. The Gishurst Compound we suppose to be chiefly composed of what is called whale oil soap and sulphur; hence its efficacy in destroying mildew. The testimony in its favor is pretty uniform, and so it is, too, in regard to its high price. Simple sulphur, applied as suggested by Hammock Park, is neither an expensive nor a very troublesome application. It is important, however, that the sulphur, or the exhalations from it, should come in contact with the disease, which usually first makes its appearance on the under side of the leaves; failure to reap the full benefit of sulphur may sometimes be traced to overlooking this fact. The method of budding on the Manetti stock, described by Hammock Park, is a very expeditious one, and will be welcomed by such of our readers as grow Roses in that way. We have never been partial to budded Roses of any kind, and the winter of 1860-1 has brought thousands to our way of thinking. We do not wish to be understood as condemning them, but as preferring Roses on their own roots. We should like Hammock Park to give our readers some equally easy mode of propagating Roses from cuttings.—ED.

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### COLD VINES.

BY A. HUIDEKOPER, MEADVILLE, PENNSYLVANIA.

SINCE the introduction more prominently before the public of the Delaware grape, I notice several cultivators are beginning to make calculations of the relative expense of in and out-door culture of the vine, and to date, from the advent of a good hardy variety, the decline and fall of those rapidly multiplying institutions, cold graperies.

After fifteen years' experience in both ways of producing grapes, I think I am

not a very rash prophet when I predict, through your pages, that in coming years ten persons will adopt cold vineries to one that abandons the use of them after having fairly tested their advantages. That such institutions will creep very slowly into Kelly's Island, or any other locality so highly favored in point of climate, is freely admitted; but as governmental securities in the stock market will always command higher rates than individual obligations, in proportion to the interest they give, on account of their greater reliability, so vineries will always have a great advantage over out-door culture on account of the *certainty* of the crop. It is an easy thing (I find it a *very easy* thing) to protect out-door vines from being winter killed and all that, but it is not very easy when a vine is in full flower and leaf to protect it from an untimely frost; and it is at such a time, when his neighbors are mourning over "blighted promises," that the owner of a viney takes up his scissors to thin out his superabundant crop, with a proper appreciation of the value of glass. I trust no enthusiastic grower of the Concord, or Diana, or Delaware will think me ignorant of the specialty which he trumpets. I have seen them all in their perfection. I have *got* them all, and forty other varieties, local celebrities besides, and in the possession of them, have felt induced to double the size of my grapery. If the subject is not too trite for your pages, I propose to suggest the plan of a plain, inexpensive grapery, with some of its advantages.

The size I would make about 40 by 22 feet. This is large enough for any family use, and will readily yield from 800 to 1,000 clusters of grapes per year. The cost would vary according to the price of materials; here, it is about ten dollars a foot, or \$400 for the building when entirely completed. The roof consists of 56 sashes, 8 by 10 double-thickness glass, each sash containing 24 panes; the upper sash laps over the lower one, and the whole are nailed down without pulleys or slides, ventilation being otherwise provided for; sashes one light high run along the sides of the building between the studding; a window and door occupy one end of the building, two or four windows the other. The windows are hinged and open outwards, and are fastened, when either open or shut, with a button. A square opening in each gable, with the end windows, gives sufficient ventilation. The windows and these openings are provided with fine wire gauze to exclude insects. The openings also have a board covering fixed inside in a slide, and with a handle attached to raise or lower the board at pleasure, the handle being perforated at small intervals with holes to slip over a staple to confine at the elevation desired. The ridge pole should be about 12 feet high, the sides of the building about 4 feet. The advantage of elevating the latter thus is, that it gives a large internal atmosphere, not subject to sudden change of temperature. It also at once elevates the vines out of the way. The sash bars should be at least  $1\frac{1}{2}$  inches deep by 1 inch wide, with a light cross bar screwed on the under side midway to prevent springing or settling of the frame. Tin eave troughs should be provided on both sides, to prevent saturation of the

border when not desirable, and to conduct the water by a pipe to a large tank or open vessel inside, where it is always at hand, and becomes attempered for use. When the water is not wanted inside, the pipe can be detached. The outside of the building may be matched and planed, and neatly painted; the inside lined with matched but rough boards, and whitewashed. No filling in is necessary, and tan is specially objectionable, as it soon dry rots the framework.

A strong wire should be fastened along each side of the building, and from these, at intervals of two feet, wires pass through a staple in the ridge pole. At the ends of the buildings staples can be placed 15 inches below the glass, and strong wires be run from them across the building, passing through some wooden supports depended from the rafters. Great additional firmness is also obtained by some fine wire ligatures around the point where the upright and horizontal wires cross each other. The rafters should be in size about 3 by 5 inches, and run from the plate to the ridge pole, with strips nailed on the side to support the sashes, which, in consequence of the lap, do not rest on the same plane. The whole ingenuity of the builder should be taxed to prevent leaks or drip; and if the aquaria cement, lately advertised, will do this, and stick where putty is so prone to fly off, we shall hereafter say a good word for it.

A building of the size given would require 8 by 10 oak sills resting on stone pillars, and one cross sill in the centre, with a support upon it to the ridge pole, and the whole should be suitably braced.

*Walks.*—Four feet from the sides of the viney ladder walks should be laid down the whole length of it, except the end border and cross walks, connecting these at convenient distances. These walks may be made of scantling with strips of  $1\frac{1}{2}$  inch stuff, sawed 4 inches wide and nailed on at  $\frac{3}{4}$  inch intervals; this admits air and sufficient light for the roots, and prevents the treading down of the border. These walks should be about 3 feet wide, and I trust I shall not be considered extravagant when I say, that I consider such a walk in a neat, well ventilated, solar warmed sanctuary, free from the chill of vernal and autumnal winds, worth to any person of sedentary occupation the whole cost of the structure, if not a single cluster of grapes should ever be grown in it. A friend of mine, on going to Congress some years ago, threw away his cigars, because, as he said, his boarding-house was so neat in all its departments that he could not bear to desecrate them, and that a habit, so exclusive in its viciousness, had better be relinquished. Commending the conclusion he arrived at as worthy of universal adoption, I have only to add, that if a man will smoke after dinner, he will find his grapevines a very good place for the indulgence.

*Heating, &c.*—I have adopted a plan of my own for warming the viney, which I think is an improvement on a simple stove. It consists in having a brick casing around the iron, some two inches from it, and covered with flat stone, leaving a small air chamber above the stove. Openings are left below for the entrance of the cold air, and beneath the stove in the upper course of brick are similar open-

ings for the exit of the heated air. These upper ones I have had made to open obliquely, those on the east pointing southeast, those on the south southwest, on the west northwest, etc. The advantage of this arrangement I take to be, that the bricks prevent a hot stove from doing any injury to the vines; that the heated air is thrown off from the chamber with considerable projectile force in a rotary and spiral manner, and thus having a tendency to intermix the entire atmosphere of the viney, and prevent the existence any where of cold or dead air.

*Vines.*—After some educational experiments in overtasking the capacities of his viney with other plants or too many vines, the cultivator will probably come to the conclusion that seven vines on a side are enough for a 40 foot grapery, and that it is not best to have any interior vines. A small central portion may, however, be divided into concrete compartments two feet deep, and as many square, where dwarfed vines may be fruited to test a new variety or seedling, or to root freely for transplanting. The brick compartments paved with concrete will prevent these vines from interfering with those in the border, and facilitate a change of soil when needed. Such compartments will contain three or four times as much earth as is contained in the ordinary crocks, and the vines will need less care.

In one half of a 40 feet viney (the other part being new) I ripened this year over 500 bunches of grapes, two Black Hamburgh vines producing 75 clusters each, which matured perfectly. The first fruit cut was on the 15th of August, and some still on hand laid away on paper in a cool room are plump and fresh, with an occasional berry passing into the raisin state. This shows the advantage of glass; a *well-ripened*, good out of door grape being usually obtainable in the northern states not before October. The past season has opened a new era in grape growing, well-ripened Catawbas being abundant in all our city markets. A few more years, and we shall have still better varieties equally cheap and plentiful. People seem to dread laying down their vines, from not knowing how flexible they are, and how easily it may be done. A vine that will occupy two rods on a trellis or wood-house in width, (like a lady's crinoline,) can be folded up, and need not occupy more than two feet of space when arranged for its winter covering. Few vines are so stiff that they may not be bent close to the earth without injury: some notched stakes made of the staves of an old keg, a little earth, and a few leaves, (not too many, or they will heat,) and the whole thing is done. The trimming being done, as it should be, beforehand, twenty minutes of labor will dispose of a very large vine for the winter; if the trunk crowns up a little at the base, a wheel-barrow full of earth will reach it. The 1st of November is a good time to lay down vines both in-doors and out, taking them up in a viney in this latitude, the latter part of March, and out of doors the latter part of April. There is also some misapprehension as to the quantity of artificial heat required by a cold viney; seldom if ever is any required in the daytime, and fifteen or twenty fires, sometimes less, will carry the vines safely through the season. One

good fire in the evening, and the stove refilled with wood, and ventilation excluded, will secure immunity from frost. Although a cold viney়, where the vines are taken up in April, will frequently do well without any fire heat whatever, yet a central stove and flue is desirable, and removes all anxiety on the subject.

I find syringing the vines not necessary where sufficient evaporation is supplied. When it is done, the evening or some warm, cloudy day is the appropriate time, and not the morning. Any drip followed by hot sunshine will scald and mar the beauty of the foliage.

A grapery such as I have described, if properly built, is good looking enough for any one who does not aim at the fanciful or highly ornamental. It should stand with the ends north and south, the glass catching the morning and evening sun, and will give the proprietor great satisfaction if rightly managed. The rules for so doing, he will find in the manuals on vineeries, and experience will teach him their correct application.

[Comparative estimates of the expense of growing native and foreign grapes are very much to be desired; the erection of cold graperies will receive no check in consequence. The increase of vineyards and graperies will be greater than ever before. The native grape, however, in its improved and improving forms, is destined to be the grape for the masses in this country. We shall attempt, in one of our grape articles, to give both sides of this question in a fair and candid manner. If you can build such a house as you describe, complete, for \$400, you can do more than we can in New York. We can build one for less money, but not of your materials. Why not put a fixed roof on your house? It is very much better, besides being cheaper. So, too, in other respects you could add to the value of the house without increasing the expense. The aquaria cement we have used largely during the past two years, and consider it far superior to putty for all glass structures. The cost is about the same. We advise you to try it.—ED.]

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## PROPAGATION OF PLANTS.

BY PETER HENDERSON, JERSEY CITY, N. J.

As this subject has of late been considerably discussed in various horticultural journals, I am tempted to offer my mite of experience on what seems to me a much more simple matter than most of those who discuss the subject would lead us to suppose.

After many years of extensive practice, I have arrived at the conclusion that cuttings of almost every plant cultivated by the florist or nurseryman will readily and uniformly root, if the proper conditions of TEMPERATURE and MOISTURE are given them. It matters little or nothing how the cutting is made, or what

may be the color or texture of the sand or soil in which it is planted ; these have little or nothing to do with the formation of roots. But an absolute condition of *invariable* success is uniformity of temperature and moisture. To attain this uniformity, the structure of the house is of vital importance ; and it is owing to the erroneous construction of buildings for this purpose that so many have to deplore their want of success. I will briefly describe the construction of the propagating pit we have in use, and the manner of operations, which will best explain my views on the matter. The pit, which faces north, is 65 feet in length by 8 in width, and 3 feet high at back by 1 in front, the pathway being dug out to give head-room in walking. The front bench is 3 feet wide, walk 2 feet, and back bench 3 feet. All along the front bench run two wooden gutters 9 inches wide by 3 inches deep, the water in which is heated by a small conical boiler connected by two pieces of leaden pipe to the gutters. Three inches above the water in the gutters is placed the slate or flagging, (resting on cross slats of wood,) on which is two inches of sand. By regular firing we keep a temperature *in the sand* from 55 to 75 ; and as the pit has no other means of heating, except that given out by the sand in the bench, the atmosphere of the house at night is only from 40° to 50°, or 25 degrees less than the "bottom heat." In the daytime, (in order as much as possible to keep up this disparity between the "top" and "bottom" heat,) a little air is given, and shading the glass resorted to, to enable us to keep the temperature of the house down. And here let me remark, that when propagating is attempted in green-houses used for growing plants, (such houses facing south or southeast,) the place usually used for the cuttings is the front table ; and it being injurious to the plants to shade the whole house, that part over the cuttings alone is shaded ; the consequence is, that the sun, acting on the glass, runs the temperature of the house up, perhaps, to 80, or *above* that of the bottom heat, the cuttings wilt, and the process of rooting is delayed, if not entirely defeated. All gardeners know the difficulty of rooting cuttings as warm weather comes on. When the thermometer marks 80° in the shade fires are laid aside ; and if the rooting of cuttings is attempted, the sand or soil in which they are planted will be 10 or 15 degrees *lower* than the atmosphere, or the opposite of the condition required for success.

The advantage possessed by the gutter or tank, as a means of bottom heat, over smoke flues or pipes, is in its giving a uniform moisture, cuttings scarcely ever requiring water after being first put in, and then only to settle the sand about them. Still, when this convenience is not to be had, very good success may be attained by closing in the flue or pipes, regularity in watering, and a rigid adherence to these degrees of temperature.

The propagating pit above described is used for the propagation of all kinds of plants grown by florists, such as Camellias, Dahlias, Roses, Verbenas, Fuchsias, Grape Vines, etc. The time required in rooting cuttings of soft or young wood is from seven to ten days. Last season, during the month of February, we took

three crops of cuttings from it, numbering in the aggregate forty thousand plants, without a loss of more than one per cent. In fact, by this system we are now so confident of success, that only the number of cuttings are put in corresponding with the number of plants wanted, every cutting put in becoming a plant.

In this narrative of our system of propagating, Mr. Editor, I have not attempted to theorize. I give the plain statement of operations as we practice them, thoroughly believing that the want of success in every case must be owing to a deviation from these rules. Ignoring entirely most of the maxims laid down in the books, such as "use a sharp knife," and "cut at a joint," we use scissors mostly in lieu of a knife, and we never look for a joint, unless it happens to come in the way. We are equally skeptical as to the merits of favorite kinds and colors of sands or other compounds used for the purpose. Of this we have reason to be thankful, for a nicety of knowledge in this particular in the head of a scientific (?) propagator may sometimes become an expensive affair.

A friend of mine, a nurseryman from the far west, deeply impressed with our superior horticultural attainments in the Empire City, hired a propagator at a handsome salary, and duly installed him in his green-house department; but, alas! all his hopes were blighted. John failed—signally failed—to strike a single cutting; and on looking about him for the cause, quickly discovered that the fault lay entirely in the sand! but my gullible friend, to leave no stone unturned, freighted at once two tons of silver sand from New York to Illinois! Need I tell the result, or that John was soon returned to where the sand came from?

[Mr. Henderson's "mite," as usual, proves to be "a big thing." A good propagating house, facing north, with a good hot water tank, giving a moist, uniform, and lasting heat, some twenty degrees above the temperature of the house: these things are all consonant with sound philosophy, according to our apprehensions, and success would seem to be fully insured. But what do the "knowing ones" say to Mr. Henderson's method of preparing cuttings and propagating generally? It is manifestly intended for them. We see something in it, but leave them to speak first. What do you say to it, John? We hope you have got that sand out of your eyes now, and can see your way clear.—ED.]

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#### THE PRONUNCIATION OF HORTICULTURAL NAMES.

BY GEORGE JAQUES, WORCESTER, MASS.

To amateurs of fruits and flowers the pronunciation of horticultural names is among the most familiar of the minor sources of vexation. This petty annoyance, were it of those to which one is only very seldom liable, might well be

passed over in silence ; but midsummer weeds need not to be looked after a tithe so often as the scientific and foreign terms from the vocabulary of the favorite pursuit, are liable to occur in ordinary horticultural conversation. An interview between two florists or pomologists casually meeting in the street, may not be of five minutes' duration, and yet one or both will hardly fail to designate some favorite plant by a ludicrous mispronunciation sure to provoke the hearer's mirth or deepen his ignorance, according as his orthoëpical information is more or less extensive than that of the speaker. Unfortunately, the difficulty under consideration is more easily complained of than remedied.

The source of the trouble in regard to the pronunciation of these names lies in the fact that they do not properly form a constituent part of our language. One large family of them—the whole body of botanical terms—is borrowed from two ancient classical tongues, of which the original sounds have been to a great extent lost beyond hope of recovery. It is well known, however, that the finest literature of antiquity was nearly all produced before writers of grammars and dictionaries had scarcely been heard of; certainly before their few meagre treatises, in the absence of the art of printing, could have been sufficiently disseminated to exert any considerable influence. Hence, as well as from other evidences, it is highly probable that the Greek and Latin, as well as other cotemporary languages, were originally written exactly as they were pronounced ; that, consequently, in any of their words, the number of syllables must have been the same as the number of vowels or diphthongs. Such a syllabic division, therefore, according to ancient usage, is still adhered to ; but, aside from this, the two classical tongues, no longer retaining the sounds which thundered from Demosthenes' lips or lent a charm to Cicero's eloquence, are now pronounced by each modern nation according to the analogies of its own language. Even in modern Greece, where little children, almost without effort, learn what is the acquisition of a lifetime elsewhere, and read intelligibly compositions which their hoary ancestors gave to immortality twenty centuries ago—even there in its native home the sonorous ring of the old vocalization is all gone. Thus it is that, at the present day, the Greek and Latin orthoëpy of Germany is German ; of France, French ; of Italy, Italian ; of Spain, Spanish, etc., etc. That, every where in those countries, there should be a considerable degree of uniformity in the pronunciation of the so-called dead languages, arises not from any effort to conform to some common standard, but rather from the general similarity of the vowel sounds in the languages of Central and Southwestern Europe. Based upon this resemblance, a kind of mongrel system, called the continental style of pronouncing Greek and Latin, has attempted to force itself into English-speaking countries ; but, wherever introduced in the schools of England or America, this European, or, more properly, Italian mode of sounding Greek and Latin vowels, has resulted in a ridiculous failure, and, throughout Great Britain and the United States, the best pronunciation of the old classic tongues still continues to be governed by the general laws of

English orthoëpy. The only exception to this usage, in countries where English is the vernacular language, is the almost universal practice of giving the Italian sound to the vowels in singing Latin sacred music, which mostly having originated within the jurisdiction of "the Church," retains to this extent the pronunciation of modern Rome. From what has just been written, it will be apparent that the one real difficulty in pronouncing a botanical term consists in knowing upon which of its syllables to lay the emphatic accent, or stress of voice. Even this difficulty lies within quite narrow limits; for the primary and only important accent of every Greek or Latin word falls either upon the second or third syllable from its end. For example, *my-os-ó-tis* and *clém-a-tis* are Greek, the former being accented on the penult or second syllable, the latter, on the antepenult or third syllable, counting backward from the termination of the words. It is the same with the accentuation of the two Latin names, *spi-ræ-a* and *gla-di-o-lus*, and yet most gardeners—not to say their employers—very easily manage to spoil these four, as well as many other words, by placing the stress of voice upon the wrong letters. Full directions for the correct accentuation of Greek and Latin words may, of course, be found in the grammars of those languages; but it is to be feared that most who are reading these pages would hardly have patience, even if they had the leisure, to explore the uninviting mines where the dry details of ancient prosody are to be sought for. The erroneous pronunciation must be corrected, if at all, by some more direct and more easily available means. Fortunately, in regard to the class of words hitherto considered, the remedy easiest of application is just that which promises to be most generally successful. It is necessary only that editors of horticultural works, and whoever else may publish any thing wherein botanical terms are employed, should cause these terms to be printed with the accents marked, just as they are in some elementary school-books. This very commendable practice, indeed, was introduced many years ago, by the late Mr. Loudon, in his *Gardener's Magazine*, and was afterwards continued by that distinguished writer on rural affairs, during the remainder of his life. In many cases, also, he was able, by using *italics*, to indicate the derivation of Greek and Latin names of modern formation. Thus, his typography of "*Wis-tár-ia*," exhibited not only the pronunciation, but the origin of the term, as in honor of Dr. Wistar. Of American writers, Mr. Hovey, in his *Magazine of Horticulture*, has, more than any other, carefully followed the praiseworthy example thus set by the great author whose voluminous productions have so enriched the horticultural literature of England. This system—with the occasional use of the type from different fonts, and the separation of the syllables of difficult words by hyphens—is so simple and efficacious, that its universal adoption would seem to be a sufficiently adequate remedy for any mispronunciation of whatever is Greek or Latin in the vocabulary of horticulture; since, in regard to the orthoëpy of words of this class, all that is essential is the division of their syllables, the place of the accent, and—perhaps it is well to add—the sounding of *a* final, except in monosyllables, like *ah* slightly

enunciated, *i. e.*, as in *Columbia*, and other English proper names. Beyond this, it is of comparatively trifling importance whether one gives to the vowels an Italian or an English sound; although the latter, where English is vernacular, is certainly the most convenient, and, for aught that can be proved to the contrary, may be, in all other respects, as good a substitute as any other for the true pronunciation now irrecoverably lost.

Terminating at this point, the path leading out of this literary labyrinth would be tolerably smooth and direct; and, with such guidance as is indicated above, no one need blunder far out of the way. But the pronunciation of the modern geographical and personal appellations, by which so many fruits and flowers are designated, is a difficulty of quite another sort from that hitherto under consideration. Of this heterogeneous multitude of names, the elegant pronunciation, pushed to its extreme limits, requires not merely a knowledge of the syllabic division and accentuation of words, but a familiar acquaintance with the orthoëpical systems of some half a dozen living languages; since, of any word whatever, the ultimate standard orthoëpy is admitted to be the general usage of the best educated society in the country where the language to which the word belongs is vernacular.

Of the foreign horticultural names obtruding their unwelcome presence every where from nursery catalogues up to encyclopedias, the greater part are French, many are Dutch, some are German, while a few others come mostly from the Italian, Spanish, or Portuguese. Now, though these six languages may not altogether contain scarcely a larger number of sounds unknown to the English tongue, and therefore unrepresentable by English letters, still the ready mastery of these few un-English sounds—however it may seem to inexperienced persons—is what very few adults ever acquire. Select from the best schools in the United States a hundred pupils most distinguished for their proficiency in modern languages, and not twenty-five out of the whole will be found to have approximated to any thing like the exact vernacular pronunciation of the French *u*, the German *ch*, or the Spanish *j*, not to mention some other foreign vocal articulations which offer less obstinate resistance to our English organs of speech. Indeed, by a little enlargement of our present boundaries, it would not be difficult to cite quite a number of Polish and Bohemian names, in respect to which even a tolerable imitation of the true sounds would baffle the utmost writhings and distortings of any Anglo-Saxon mouth not habituated to these sounds from infancy. And, were the foregoing difficulties smoothed out of the way, there would still remain a fear of pedantry to deter many people from mixing the discordant accent of a foreign word with the familiar tones of an English sentence. Hence, what is the strictly correct pronunciation of these personal and geographical appellations—while popular education remains at its present level—does not seem likely to become at all prevalent among an English-speaking community. But, if the imitation of the vernacular sounds of a foreign word be difficult, the too near approach to the opposite extreme is something quite past all endurance; as may be easily made

apparent by giving a full English pronunciation to each letter of the following names, taken promiscuously from a nursery catalogue : *Fenouillet Gris, Glout Morceau, Gros Monstrueux, Napoléon d'Hiver, Sieulle, Swaar, Quilletette*, and the like. Nor are these uncouth abominations, as thus Anglicized, merely hideous, but they sometimes assume a very ludicrous air also, as where *Belle et Bonne* is metamorphosed into *Bellybone*, *Louise Réale* into *Lucy Rail*, *Duchesse d'Angoulême* into *Dutch's Danglelimb*, etc., etc. The truth is, these foreignisms in our English speech are—to use a gardener's phrase—in all stages of acclimation. We pronounce *Bordeaux* as in French, *Lyons* as in English, and *Paris* intermediately between the two languages, giving the vernacular sound to the first two letters and Englishing the remaining three. And, as if this irregularity were not sufficiently vexatious, the anomalous condition of these words is not restricted to their orthoëpy merely, but their orthography also undergoes a change in some instances ; as, for example, the above cited French *Lyon*, to which the English seem to have added an *s*, on purpose the more effectually to distort its vernacular pronunciation. Thus foreign words are accustomed to domesticate themselves among us, conforming more or less, and in every possible irregular manner, to the analogies of the English tongue. It will not then need to be repeated, that the pronunciation of this entire class of geographical, personal, and commemorative names, is an extremely difficult branch of orthoëpy. The true vernacular pronunciation, indeed, ought not to be required except from a few rarely met with linguists, whose elegant scholarship comprehends an easy command of every un-English sound known to the languages from which the names in question are derived. The best that can be expected of the generality of the people, is something intermediate, which, if less euphonious than the true pronunciation, is still not quite so horrid as that indicated by the natural English sounds of the letters. This compromise system of orthoëpy—as it might be styled—is exhibited as well as it can be, perhaps, in the pronunciation of foreign names, as given in Lippincott's Universal Gazetteer and in the latest edition of Worcester's and of Webster's Dictionary. But, how shall even this low and unsatisfactory standard for pronouncing so many strange names be popularized ? It is easy enough to suggest some of the means that might be employed. Let some competent person publish a dictionary of these terms, which shall give not only their approximate orthoëpy, on the above plan, but also their derivation, and perhaps a brief description of the plant, fruit, or flower designated by each. Unquestionably, such a volume would prove a welcome addition to every gentleman's library. The author of any new treatise on fruits or flowers might also insert such a vocabulary, in an abridged form, as an appendix to his work ; as was done, to a very limited extent, in *Downing's Fruits, etc., of America*. The names already in use having been thus in some way disposed of, editors of horticultural magazines might easily continue the record, by giving, in the last number of each annual volume, the pronunciation of every *new* term of this class which has been intro-

duced within the year ; and this in addition to the representation of the orthoëpy, in connection with the *first* mention, of any of these foreignisms from time to time making their appearance in our horticultural literature. It would even be rendering a grateful service to many a reader, to extend this practice backward to a considerable number of these names, which are none the less unpronounceable because now in common use.

More might be said upon this driest of all themes, but it would seem almost abusive to tax the reader's patience farther ; and especially since the subject would hardly claim a place at all in the pages of the HORTICULTURIST, were it not during this dull season when frost and snow seem, in a measure, to exclude from discussion many topics more entertaining and useful. One other idea occurs, which, as a suggestion of charity and decent civility, ought not to be omitted here : it should be enacted as an irrevocable law in the republic of horticulture, that any mispronunciation whatever of any of the aforesaid names shall henceforth be unnoticed and ignored, in so far as not to be made a subject of ridicule ; for surely the mortification attendant upon the delivery of one of these orthoëpi cal abortions may kindly be spared the aggravation of having the misshapen bantling made a victim of heartless derision.

[The subject may to some be dry, but none the less important ; for us it possesses a peculiar interest intrinsically, and we must express our admiration of the able yet lucid manner in which Mr. Jaques has treated it. Pure Greek and Latin forms should present comparatively few difficulties ; but the others are an abomination. Mr. Jaques, however, has left little to be said on this point. We have no doubt that his suggestions, if carried out, would result in great benefit to the horticultural community. The subject has occupied our thoughts at times, and we shall not forget it.—ED.]

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#### TECOMA JASMINOIDES GRAFTED ON A PIECE OF ROOT OF TECOMA (BIGNONIA) RADICANS, THE COMMON TRUMPET FLOWER.

BY HORTICOLA.

It being a well-known fact, that the beautiful *Tecoma jasminoides* is, when cultivated in a pot, a very shy bloomer, I was very glad to learn that Mr. Boudiard had, in the *Jardin des Plantes* at Paris, succeeded in grafting it on pieces, five or six inches long, of the Trumpet-flower, which is to be found in nearly every garden. When I bought a plant at Messrs. Parson's establishment, a young, very intelligent German gardener, who had charge of the green and hot-houses, dissuaded the experiment. By looking at the wood of both, he said he could tell at once whether two plants would unite by grafting or not. The *T. jasminoides* could *not* be grafted on *T. radicans*.

History is full of the mischief *human authority* has produced both in sacred and in secular affairs; I do not, therefore, believe in any thing that has been or is asserted by *a man*, however great he may be, if his assertion does not show internal evidence in itself. I tried the experiment, and am enjoying now the large and elegant flowers of the *T. jasminoides*, grafted in March on a piece of the root of *T. radicans*. The specimen in blossom is seventeen inches high; it commenced blooming more than a month ago.

In March, as stated, I took two pieces of the root of *T. radicans*, each about six inches long and a quarter of an inch in diameter, and inserted in each a scion of the *T. jasminoides*. This process was, in some degree, difficult. The root of the *T. radicans* is very uneven, almost gibbous, so that the scion could not easily be inserted by cleft-grafting. To obviate the difficulty as much as possible, I made a triangular cut in the root, about three quarters of an inch long, and deep enough to receive the scion, cut in the same shape. The wood of the scion was young, but not succulent; it had but one eye, (bud;) part of the only remaining leaf was removed. Both were tied with woolen yarn without any grafting wax, and so deep planted that the bud of the scion was just visible. They were covered with inverted tumblers, shaded, and put in a hot-bed.

One of the scions began to grow almost immediately, the other failed; the root, however, sent forth two young shoots, one of which I removed, the other I cleft-grafted, after it had grown about four inches high, cutting it through just above a leaf. The operation was successful.

On removing a little of the soil, I saw then the cause of the failure. The root was decayed at the top. In order to arrest the progress of the decay, I cut the rotten part away, severing unintentionally the shoot, with the scion growing on it from the root. It continued, however, adhering to the soil, which was caused by a long thin root of its own. I cut it, therefore, from the piece of the old root, with which it was connected, and planted it carefully in a small pot, covering and shading it. It is now a beautiful, vigorous dwarf.

I hope the success of my experiment, so minutely described, will enable many to enjoy the beauty of so elegant a plant as *Tecoma jasminoides*.

[We have to thank Horticola for the details of the above interesting experiment; it will make *Tecoma jasminoides* tractable in the hands of many who would otherwise be deprived of the enjoyment of this beautiful plant. We have had the satisfaction of seeing the specimens thus grafted; the union is strong and perfect, and the plants in fine condition. The effect has been to dwarf them, and bring them early into flower.—Ed.]

## PARLOR PLANTS.

BY A JERSEY FLORIST.

MR. EDITOR,—On reading the communication of your lady contributor, “Frances Mary,” in your January number, I feel induced to take the reply to it, in part, out of your hands, believing that, though a professional florist, I can give a few plain directions on the subject, free from all that scientific mystification that your correspondent so much dreads. Instead, however, of treating of one particular plant at a time, as requested, I will class a few that require nearly similar treatment. *Monthly Carnations, Fuchsias, Pelargoniums, Monthly Roses, Variegated, Scented, and Scarlet Geraniums*, form one class of parlor plants, the most beautiful varieties of which (to begin with) can be purchased from the growers at an average of twenty-five cents each.

But here is where the danger begins, the plants from the florist’s establishment being grown by being placed on tables covered with sand or saw-dust, and the whole atmosphere of the green-house teeming with moisture; in the direct transition from there to the dry atmosphere of the parlor, the first experience of the purchaser is, that the plants droop, and then, perhaps, lose their leaves. To obviate this, let the purchaser, in selecting the plants, choose healthy plants in *small pots*, that is, *small* in proportion to the size of the plant; and on getting them home, at once “shift” or change them into pots two inches more in diameter than those they are growing in. The process of shifting is simply to invert the plant, tapping the pot gently so as not to break the ball of earth containing the roots, then put about an inch of earth over the bottom of the new pot, place the plant thereon directly in the centre, which will leave a space of one inch all around to be filled in with soil, moderately firm; give a gentle watering with a sprinkling pot, and the process is done. There is a great deal of nonsense written about special kinds of soils for particular varieties of plants; if convenient, get some soil from the heap of the nearest florist; if not, use the soil from your garden borders; it will make but little difference which, if the other conditions are attended to. Above all else, avoid tampering with guano or other fertilizers in the culture of parlor plants. I know that there is a mysterious belief abroad of the power of these useful agents, attributing to them magical effects, approximating almost to that vegetable phenomenon, Jonah’s Gourd; but be not tempted; let them alone.

The next thing to be observed is heat and light. The temperature of the room where plants are grown may range from  $40^{\circ}$  to  $60^{\circ}$  with fire heat, without material injury; but if a uniform temperature of  $50^{\circ}$  can be maintained, so much the better. The exposure should be southeast, south, or southwest, so as to obtain the greatest degree of light. The plants should be turned round once a week, to prevent them becoming one-sided by being drawn to the light.

Our rule for watering plants is a very old one, and can not be improved upon;

it is, "water only when the plant is dry, and then give it abundance." To know when a plant is in a condition requiring water, the earth will appear lighter on the surface of the pot; a slight experience will soon enable any one to detect this at a glance. During the cold winter months plants will not require water more than twice a week. In the late spring months, at least once a day in bright weather. Saucers for standing the plants in, should only be used for keeping the flower table or stand clean; they should never be filled with water unless the plants are very vigorous and the weather warm.

To prevent the plants from being attacked by green fly, which will prove quickly destructive, steep tobacco in water until it gets to be about the color of ordinary strong tea; then with a syringe or sprinkling pot, sprinkle the leaves under and above; or, if convenient, dip them over head in a tub filled with the liquid, once in two or three weeks. Red spider, another pest to contend with, can best be prevented by frequent syringings or immersions of the plants in water. But where the plants stand on tables covered with moss kept damp, there is likely to be no necessity for such practice, as the evaporation from the moss will prevent the insect from getting a foot-hold, a dry atmosphere being necessary for its existence. Air in cold weather should only be given from the top of the sash, and then not until the thermometer indicates 60° or 70°; in mild weather, when the outside temperature, in the shade, is 60° or 70°, air may be given directly on the plants.

One of the simplest and safest methods of rooting cuttings or slips is what we gardeners call the saucer system. Take a saucer and cover the bottom with sand or soil, (it is of no consequence what kind;) pour in enough water to make a thin mud of it; then cut off slips of *young shoots* from two to four inches long, removing the lower leaves, so that about an inch of the stem can be inserted in the mud; place them just thick enough to have the leaves about touch each other; place the saucers thus filled close to the light, nothing more being required but to keep the soil in the saucers in this half-liquid state, by adding water when necessary, and in from ten to twenty days (according to the temperature of the room) the cuttings will be rooted. This mode of propagating is much practiced by florists whose business is not of sufficient extent to admit of a regular propagating house.

In closing, I may remark that all of the above directions are equally applicable to the treatment of plants in the greenhouse or conservatory, in cases where no regular gardener is kept. Another class of plants suited to the parlor, are Camellias, Azaleas, Gardenias, Cacti, etc.; but as these require somewhat different treatment, they must form the subject of another paper.

[We are obliged to "A Jersey Florist" for having so promptly responded to Frances Mary. She will accept his article as an evidence that there are some florists who are quite ready to impart the information she so much needs, since

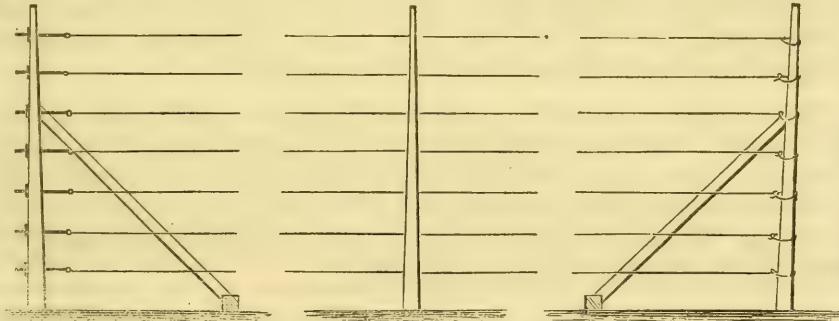
he is a large and well-known grower of plants. We observe that he promises another paper; after that is given, we will take up some other portion of the subject. We would suggest that the Camellia and some similar plants be left till the parlor amateur has acquired a little experience.—ED.]

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## GRAPE VINE TRELLIS.

BY F. C. BREHM, WATERLOO, N. Y.

SEEING in the January number of the *HORTICULTURIST*, in "Hints on Grape Culture," your mode of making a trellis, I will give your subscribers mine, if I do not trespass on your time and patience too much. In the first place, in making my trellis, I get good swamp oak posts, 13 feet long, 5 by 5 inches at the butt, and 5 by  $1\frac{1}{2}$  inches at the end or top. These I set in the vineyard where wanted,  $3\frac{1}{2}$  to 4 feet deep, 30 feet apart. The two end posts I braced by setting a short post, 4 feet long,  $3\frac{1}{2}$  feet in the ground, leaving 6 inches above ground, to which I fasten my brace. This post should be set about 7 or 8 feet from the end post.



For the brace I use 3 by 4 good pine scantling. Wires I use 7 in number, placing them at intervals of 15 inches apart. For the lower or first wire I use No. 9; for the others, No. 10, annealed fence wire. The wires are fastened at one end by boring a hole through the post large enough to admit the wire, and then winding once around the post and fastening; this prevents the wire from slipping or getting displaced, and is better than to wind around alone. The other end is fastened by a bolt 14 inches long, made of  $\frac{3}{8}$  inch round iron, with a thread cut on it 10 inches long, and a hole or eye punched or drilled in it large enough to admit the wire. This bolt is inserted by boring a hole a trifle larger than the bolt,

through the post, so as to allow it to move freely backward and forward; for if the bolt fits too tight, it will rust and get stuck in the post, so that it can not be moved when it is necessary to tighten or slacken the wires, especially if the posts are oak. I coat the wires with coal tar; this prevents their rusting, and is cheaper and better than paint.

I place my vines 10 feet apart on the trellis, and 8 feet between the rows. In the first year of planting the vines I allow them to grow one shoot or cane; this is cut back the following fall to 3 eyes. These I allow to grow the following spring, training the two lower shoots horizontally each way on the lower wire until they meet midway with those of the next vine. The shoot from the third or upper eye I train up vertically, and which produces fruit the next season. The two horizontal shoots from this season will produce a cane or shoot from each eye, which is trained up vertically on the trellis, and which fills it up completely, forming, as it were, a solid wall of vines. By cutting out every other cane at three eyes, you can renew your wood every year. I have got sixteen native varieties and four foreign, that I am cultivating. I have set out some two and some three years old, which I expect will show fruit this coming season. There is a great interest manifested about here in growing grapes for market; all the people need, to induce them to cultivate this best of all fruits, is practical knowledge; and I must in candor say that, since I have become acquainted with the HORTICULTURIST, I have learned more about grape culture and horticultural matters in general, than in all the works I ever read on that subject. But I must close, as I am already trespassing on your time too much.

[Your trellis is very good and substantial, though we should prefer chestnut posts to oak. Your mode of fastening the wires is excellent, besides being simple and cheap. The sunken post for the lower end of the brace to rest against is to be preferred to a stone, which is sometimes used. We shall be pleased to hear from you again. We shall endeavor to impart to your people just such knowledge as will make them thorough horticulturists.—ED.]

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### THE GLADIOLUS.

(*See Frontispiece.*)

BY THE EDITOR.

THE Gladiolus is taking a very prominent place as a bedding plant and show flower, and deservedly so. As a cut flower for public exhibitions, there are few that surpass it. It will take its place among the flowers for the million. When examining Mr. Bridgeman's fine collection, we selected a few of the best for a plate; this, unfortunately, was ruined. We present, however, a charming variety

copied from the London *Florist*, and named *Mrs. Reynolds Hole*. It is described as follows: "It is very beautiful, of average size, with all the desirable qualities of form and substance, and is in all respects a perfect painted lady. The color is white, marked with numerous bars and streaks of rosy crimson, the markings being more crowded and confluent toward the ends of the sepaline segment, so as to form richly colored variegated tips. The large upper petaline segment is longer than the sepaline parts, which it resembles in color, but is rather less freely marked; while the two smaller lower petaline divisions, which are rose flaked at the top, are dashed with a rich creamy buff lower down, and, as well as the lowest sepal, have a crimson, feather-like marking up the center. At the mouth of the contracted tubular part there is a rosy star. Our figure, drawn from some of the earlier blooms, does not show the flaked tips of the two small petaline divisions, nor the bold feather-like mark just described, which are present in the specimen from which our notes are drawn up." The variety here described was raised by Mr. Standish, of the Bagshot nursery, a noted grower of Gladioli. Messrs. Bridgeman, Buchanan, and other of our growers have raised a large number of seedlings, and we expect to have from them something new and meritorious.

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ON RESTORING PLANTS WHICH HAVE BEEN  
AFFECTED BY FROST.

BY DANIEL BARKER, HARTFORD, CONN.

DURING the present season a few remarks on the nature of restoring greenhouse and other tender plants which may be affected by frost, may not be uninteresting to some of the readers of the *HORTICULTURIST*.

Every practical gardener is aware that the application of cold water upon frozen plants has a tendency to restore them; but from observation I am under the impression that, through ignorance of the nature of applying the water, it is seldom performed with that degree of success of which it is capable. Heat exists in two states, viz., latent and perceptible; when any two substances of different temperatures come in contact with each other, the temperature of the one is raised and that of the other is lowered, until the two substances become equal; and if they are of equal density the temperature will be a mean one; this is, provided that neither of those substances undergo a change from solid to fluid, or from fluid to gaseous. In this case, a great quantity of perceptible heat will be consumed and converted into latent heat; and if the change is from gaseous to fluid, or from fluid to solid, perceptible heat will be produced from the given off of the latent; thus, if equal weights of ice at  $32^{\circ}$ , and water at  $172^{\circ}$ , be mixed together, the whole of the ice will be melted, but the temperature of the mixture will be  $32^{\circ}$ , so that 140 degrees are lost, or converted into latent heat. If a tender plant that

will not bear the frost, a Heliotrope or Pelargonium, for instance, be exposed to an atmosphere of  $32^{\circ}$ , it will not be injured, but if the temperature sink below that point, say  $28^{\circ}$ , under ordinary circumstances, when there is the least circulation, the juices of the plant will become frozen, and it will be injured by the application of perceptible heat in its rising from  $28^{\circ}$  to  $32^{\circ}$ ; but if the temperature, when at  $28^{\circ}$ , is raised by the freezing, when the act of freezing, by giving off latent heat, raises the temperature to the freezing point, the plant is uninjured.

It follows, therefore, that the application of water should commence before there is any alteration in the temperature of the surrounding atmosphere; that is, in the morning before the sun's rays shine upon the house containing the frozen plants, or before a fire is put on, and continue until the temperature is raised to the freezing point; but if the temperature of a green-house should be sunk to  $28^{\circ}$ , and a slight syringing of water applied only sufficient to raise the temperature by the congelation of its particles to  $30^{\circ}$ , a great injury will be sustained, if left to rise afterwards by perceptible heat to  $32^{\circ}$ , as the agitation which will have taken place among the plants will have more effectually frozen their juices.

The water which is used should be but little, if any, above the freezing point, or as cold as can be procured, so that the temperature of the plant should rise from  $28^{\circ}$  to  $32^{\circ}$ , not by the application of a warmer substance so much as the converting of latent into perceptible heat. It is also of very great consequence that the leaves or no part of the plant should be moved when in a frozen state, as the cellular tissue of which they are in a measure composed, being of a very delicate texture, each cellule being filled with watery juice, which becomes frozen, the least bending of that part of the plant would rupture the membranes, which are only (and in many cases not quite) elastic enough to allow of the expansion of the water by freezing; it is, therefore, obvious that, instead of the water being laid on by a heavy rose, it should be done by a very fine syringe like a shower of dew.

I have put the above idea in as condensed a shape as possible; I hope not too much so to be understood.

[A very interesting subject, especially to those who keep plants in rooms. But even in the conservatory and the green-house we are sometimes "caught," as the gardeners term it. We have had Fuchsias, Pelargoniums, Dendrobiums, Cactæ, and similar plants, frozen hard, the thermometer indicating  $24^{\circ}$ , and have recovered them all by shading the house and applying cold water gently through a very fine "rose." We have known the same thing to be done in a number of cases, and therefore conclude that the application of cold water is a good remedy to recover frozen plants. Great care must be exercised that no sunshine reaches them for some time afterward.—ED.]

## FRUIT TREES IN POTS.

FROM THE GERMAN OF DR. DIEL.

We continue our extract from Dr. Diel's work. It will be found interesting.

"Fruit trees in pots require only a small flower garden, or even only a few boards before the windows; and yet for all that they will give more pomological knowledge in ten years, than a large orchard can possibly give in twenty. I will suppose, for example, that one can find place for only *fifty* pots, whose width at top is *eight inches* and depth *seven inches*, ordinary flower pots, containing about 309 cubic inches of soil. This would be sufficient to become acquainted with 225 varieties in ten years. That is to say, I calculate, by experience, that of fifty trees planted in pots, one half will always bear the second year, and this amounts, deducting the first year of planting, in the following nine years to the above number. Who is there that has not room enough or ground enough to accomplish this. And how small a nursery is sufficient for this purpose? If one procures only thirty proper stacks every fall, on which we can graft those varieties we wish to grow, they may be grafted as soon as the following spring, or budded the next summer; and after two years' growth of the graft they are planted in the pots. If such a tree in the ground is allowed two, or at most three square feet of space, such a nursery—allowing five trees to fall—would scarcely require more than one rod of ground in four years.

"To acquire an extended, reliable, and speedy knowledge of the numerous varieties of fruit, then, without large outlays of money and time, the raising of fruit trees in pots is an urgent necessity. But to discover new varieties it is just as important and advantageous.

"It has long since and often been recommended to select those seedlings from the seed beds which in their growth and leaves show nothing wild or thorny, and to plant them for fruiting without grafting them. That in this way many new varieties have originated, still originate daily, and perhaps all have so originated, is an acknowledged and well-known fact. But as it must not be dreamed that each noble-looking seedling will yield a valuable variety of fruit, the planting of such trees would be a great risk, calculated to do more harm than good, by distributing many inferior kinds.

"To avoid all this, and to know, without losing the seedling, with what sort of fruit any good looking one would have enriched us, pot culture is a means as convenient, easy, and precious, as it is truly entertaining, and ending in no disappointment. In the pot such a tree will bear fruit at latest the third year, and we then know whether it is worthy of propagation or not. In the orchard this would have taken six to ten years.

"It is truly desirable that in large nurseries where seedlings are raised from seed of select varieties, a number of such trial pots should be kept. Thereby many new varieties could be discovered, of which many would be a real enrich-

ment to our present stock, and which are lost without this means. How often may inferior cooking fruits have been grafted on a seedling, whose own fruit would have been an ornament on table?

"For those who make pomology their study, pot culture is also a sure way to effect pure artificial crossings, and to raise pure specific seed of select varieties. An artificial crossing is sometimes effected through the wind, but principally by insects. But if the crossing is to be perfect, if the artificial impregnation is to affect the whole nature of the seed, all the anthers in all the blossoms of the tree that is to be impregnated must be cut out before their maturity, and the pistil thereby be isolated. \* \* \*

"By pot culture also such kinds of fruit can be raised, tried, and enjoyed, that would either not stand the winter in that locality in the open ground, or whose blossoms might be easily destroyed by late frosts, or else would ripen too late in the fall, to expect fine weather to bring them to perfection. To this class belong principally Peaches, Figs, Almonds, Apricots, and some Plums. A Russian countess assured me, that she cultivated many French fruit trees in pots in Moscow, wintering them in large green-houses.

"Pot culture could also assist greatly in distributing good and rare varieties. A large part of our beloved Germany is yet so far backward in the distribution of select fruit, nay, many neighborhoods known to me are so poor in plantations of the most indifferent kinds of kitchen fruit even, that every encouragement to fruit culture would be compensative. What hidden wealth of the country, what healthy enjoyment, what true economy lies in this culture. A country without fruit is ever poor. \* \* \*

"The Babylonian chaos of names of varieties could also be cleared through pot culture. How great this chaos is, and how it requires the labors of an Augeas to sift this mish-mash, is well known to every amateur, and much more to the professional pomologist. \* \* \*

"But if several pomologists in different parts of Germany would join in an association, and mutually send each other the varieties known in their neighborhood under an acknowledged name, how speedily would each, after previously communicating his catalogue, distribute his wealth, and in turn become possessed of that of others. This exchange would, indeed, be effected the quickest by sending directly such ripe fruit as could be transported; but the pomologist would, in fact, learn little in this way. For, to the system, the study of the tree itself is necessary.

"Pot culture is a speedy and easy means for this end. If, for instance, each member of the association kept only one hundred trees in pots, and considering that these are studied through every three years, what a wealth of knowledge would spring therefrom. How insignificant would be the cost; for each member would have to raise only about forty trees yearly for exchange. To exchange scions would also be a good way, but slow and uncertain, particularly with stone-fruit."

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, New York. Packages by Express and City advertisements to 25 Park Row. Exchanges should be addressed to "THE HORTICULTURIST."

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**AMERICAN POMOLOGICAL SOCIETY.**—We learn, through President Wilder, that the 17th of September next has been appointed for the meeting of the American Pomological Society, in Boston. The arrangement has been made in connection with the Massachusetts Horticultural Society, whose exhibition will take place at the same time. A committee has been appointed to make the necessary arrangements, and Mr. Wilder promises to make "all as comfortable as possible," and we have no doubt he will do it. The next session will be one of peculiar interest, owing to the important measures to be brought before it, and every member should go with his opinions well matured. We hope to see the fruit list at least thoroughly "revised and amended." Let every one bear in mind this meeting, and prepare for it.

We hope the variety and value of the articles in our present number will atone in a measure for some shortcomings in our last issue.

"ON HEATHER IN THE UNITED STATES."—Such is the title of a small pamphlet by E. S. Rand, Jr., which possesses a very peculiar interest, since, in our opinion, it is fairly shown that the true Scotch Heather (*Calluna vulgaris*) is found growing indigenously in the United States. The precise location is Tewsbury, Mass. Attention was first called to the subject by Mr. Dawson, who exhibited the plant before the Massachusetts Horticultural Society as "Native Heath." Mr. Rand, as Chairman of the Flower Committee, very naturally had his interest deeply awakened, and, in company with his associates, thoroughly investigated the matter, an account of which we have in the present pamphlet. The Flower Committee was fortunate in having such a gentleman as Mr. Rand for its chairman. The indigenous character of this Heather is endorsed by Prof. Gray, one of our most distinguished and thorough investigators.

**TEA LEAD FOR TREES.**—Last month we recommended tin or zinc as a preventive against the injury caused by mice, etc. A correspondent sends us the follow-

ing recommendation of *tea lead* for the same purpose, and it seems to us both good and cheap :

" Among all the articles recommended to prevent mice, borers, etc., from injuring trees, I know of nothing better than the thin lead with which tea-chests are lined. I have tried it many a year, and think it a capital remedy. It is so thin it can be readily made of any desired size, and is very easily applied. It should, of course, be fitted loose around the tree.—C."

**THE RURAL ANNUAL.**—The Annuals this year seem to be better than ever. Mr. Harris, certainly, has not before presented one possessing such a large amount of valuable and interesting matter. Fruits, Flowers, Wines, Grains, Cattle, Tillage, Implements, etc., are treated in a thoroughly practical manner, which gives the Rural Annual a positive value to all whose attention is devoted to any of these subjects. It is published by Joseph Harris, at the office of the *Genesee Farmer*, Rochester, N. Y. The price is 25 cents.

**THE RIGHT TALK.**—A very intelligent, well-known gardener, in renewing his subscription, uses the following language, which we give as representative of much more to the same effect from others :

" Every practical gardener in the country should have the 'Horticulturist,' no matter how extensive his experience may have been. The world is not stationary; some new discovery every day; hence the necessity, to the practical gardener, of such a publication as yours, to keep him 'posted.' But to the amateur, no matter how small his plot of ground may be, it is indispensable. In it he will find *reliable information* on every subject connected with rural art."

**" THE VINEYARD."**—This is the title of a new monthly placed on our table. It is to be devoted, according to the prospectus, entirely to the vine. It is published in Jersey City, by Messrs. Peck and Rowe. The editor's name does not appear, but it would not be difficult to guess it from the style. It is a small quarto of eight pages, and is offered at 25 cents a year; a price that will kill either the work or the publishers. We hope they may be able to battle successfully with the times, and spread "vineyards" all over the land.

Transactions of the Essex Agricultural Society for the year 1861. Published by order of the Society.—This Essex is in the State of Massachusetts, though one may read these Transactions from title page to "finis" with scarcely an inkling of the fact. These Transactions, occupying 200 pages, are well printed. Many of the Reports, Statements, and Essays are valuable papers, and worthy of preservation. Transactions like these are store-houses of material for our agricultural history.

Forty-third Annual Report. Transactions of the Hampshire, Franklin, and

Hampden Agricultural Society, for the year 1861.—Here we have another volume of Transactions in which the State is carefully suppressed. This may not be a matter of much moment to those who live in Hampshire, Franklin, and Hampden, but it is to many others who take an interest in such Transactions; for they contain valuable papers that possess more than a local interest.

CATALOGUES, ETC., RECEIVED.

*Isaac Pullen*, Hightstown, N. J. Fruit Trees in Pots. Peach, Apricot, and Nectarine Trees.

*Hoopes & Brother*, Cherry Hill Nurseries, West Chester, Pa. Supplementary Catalogue of the Ornamental Department.

*Plumb, Willey, & Co.*, Vine Hill Nurseries, Madison, Wis. Fruit and Ornamental Trees, Evergreens, Vines, Shrubs, Roses, and Plants. 1862.

*Godfrey Zimmerman*, Pine Hill Nurseries, near Buffalo, N. Y. Descriptive Catalogue of Fruit and Ornamental Trees.

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## Correspondence.

DR. HOUGHTON AND NATIVE GRAPES.—P. B. MEAD, Esq.:—I am opposed to any thing like personal controversies, considering them usually unpleasant and useless; but do not like to lie under an unjust accusation. I deny that *my* article at least was written with a design to "deliberately misrepresent" the Dr. The gentleman is unknown to me, and I have no interest in grape or any other culture, except as an amateur.

He says, "stripping the matter of many words," I said thus and so. It was these "many words" that made the trouble. If he had kept to his brief, no one could have objected; but I submit that his address, as a whole, was a tirade against and denunciation of native grapes, rather than a comparative statement of the profits of out and in-door culture; at least so it struck me at the time, and I know I was not alone in so thinking.

I think it probable that a housekeeper who uses a large amount of Strawberries, etc., "would not purchase five pounds of native grapes at six cents;" as, to get any fit to eat, she would have to pay two or three times that price. Why persist in talking about this trash? I for one was speaking of properly cultivated, ripened fruit. If you talk of apples, gardeners do not think you mean wild Crabs. Is the Doctor a homœopathist? He seems to have a dread of large doses of Grape, at any rate. I will eat five pounds per day, as long as he chooses to furnish them; and have two little boys of five and seven, who will be glad of the chance to dispose of the same quantity between them. Yours, BROOKLYN.

[The impression left on the minds of many of the Doctor's hearers certainly was,

that he considered all native grapes unfit to be eaten ; hence those accustomed to eating our best cultivated grapes felt aggrieved. If the Philadelphia market is supplied with wild grapes, (which might be inferred from the remarks made,) and the Doctor referred to these, the points of difference would be greatly lessened. Ninety-nine persons out of a hundred will not turn away from our best native grapes when set before them. Of well-known growers and consumers of foreign grapes, we have heard some give a decided preference to our best native varieties ; we have heard others, again, give a decided preference to foreign varieties. These differences are matters of taste, which we can understand and appreciate. In view of the almost universal consumption of native grapes, it is a very grave matter indeed to say that our best varieties are unhealthy as articles of food. If they are really so, the fact ought to be known. On this point, we can only repeat what we have before said, that we never feel better than when eating native grapes, freely. To make the testimony complete, we will add, that we feel equally good, if not better, when eating freely of Muscats and Hamburghs. There is one matter, however, back of this, which we do not so well understand, and that is the Doctor's failure with the natives. We shall have to appeal to him to explain this. Something of the late frosts we understand, but this is insufficient.—ED.]

P. B. MEAD, Esq. :—*Dear Sir*,—Will you permit me some few remarks on “Brooklyn’s” hints and suggestions about the Brooklyn Horticultural Society ? I think, with him, that members who shall not be induced to increase the members of the society except by the commission of 20 per cent., etc., will be a contemptible lot ; but I hope there will be only honorable lots. I also, with him, disapprove of the “*wet blankets* ;” by all means avoid the cooling treatment ; on the contrary, “*throw oil on the fire*,” when you shall discover it in the pathway of the Brooklyn Horticultural Society, or of any other localities. Gardeners and the society should be *all one* ! Alas ! it is now seven or eight years since I expressed this opinion, in the columns of a Philadelphia horticultural paper, and the thing is in the *statu quo* yet. “*Brooklyn*” is doubly right ; it would be much more satisfactory to deal with people who know what they want, than with ignorant persons, who only blame gardeners for their failures. I heartily endorse the remainder of this paragraph, and the following, inclusively to the “*free trader*,” against which I protest. What, B., you are a free-trader, (local free-trader;) you are afraid of free-trade, (probably between Fulton Ferry and Bay Ridge.) and you want *to fold* your skill, improvements, success, in the narrow limits of *Long Island State* ? But I am wrong : you would only exclude foreign exhibitors, and curtail the *extra inducements*. It is magnanimous, not to use a different and more expressive adjective.

Foreign exhibitors seem to be your night-mare, dear B. ; but will you please tell me, if, since the waking of your society from its first slumber, (you might, perhaps, be ignorant that previous to 1854 the society had slumbered 14 years !

rather a lethargic sleep.) seven years ago, foreign exhibitors had not been induced to overshadow, to frighten away, etc., your home ones, what would have been your exhibitions? *Yours!* to a certainty, and you would have been satisfied; but do you think visitors to the exhibitions would have been of your opinion? I doubt it. You think it is wrong that gardeners should be averse to playing second fiddle; but you are so yourself, inconsistent man. I suppose gardeners are like Cæsar, they think it is better to be the first in a paltry town than second in Rome. But I perceive I have come to the peroration of your epistle, so allow me to express my opinion too.

I think that, in spite of those *scarecrows* of foreign exhibitors, and of all the tamed local ones; in spite of you and of all the pretty liberal patronage of visitors to the exhibitions, of all localities, *yours* and *ours*; in spite, or rather with the spite of gardeners, the society would not be slumbering, but *dead*.

Gardeners and horticultural societies TO BE ONE! When this honorable Utopia of yours shall be a fact, virtue and vice, truth and falsehood, shall be synonymous. Gardeners, generally speaking, can kill institutions of the kind we are speaking of, as readily as they can kill plants. Mr. B., if your homonym, the Brooklyn Horticultural Society, is alive, it is not the fault of gardeners, or, at least, of a large majority of them; if it is alive, we may thank the exertions of your worthy President, Mr. Degrauw, who, more than once, has had *wet blankets* thrown over his zeal, good intentions, and civilities to all outsiders and others.

ANTHOPHILUS.

P. S.—I ought to add, that, in regard to the rest of B.'s remarks, as well as your comments on Committees, etc., I fully agree with you both; as you say, Mr. Editor, committees are admirable contrivances to do nothing, or to act the part of the *wet blankets*. Committees look well on paper, but when the days of exhibition come nothing is to be seen. Home and foreign exhibitors must do the best they can in exercising their philosophy, not to wish to be *home*, instead of overshadowing the horticultural community.

A.

As a diversion to the above criticisms, let me ask you if you are acquainted with a plant called *Clivia miniata*. It is one of the very best plants introduced since a good many years. Should I express in words my admiration of this gem I would say it is the *best* new flowering plant we have. I see one in bloom now, which has flowered *three times* in less than a year, (almost a suitable plant for people who want plants that "blow" all the year round.) Without flowers it is a beauty; might rank among ornamental plants; but, with flowers, it is unsurpassed. It flowered for the first time last January or February; gave a scape with 10 flowers; in June following gave another with 11; and last month one with 17 flowers, of a splendid orange scarlet, and every flower being of the size of an Amaryllis; but, to be exact, I give you the dimensions of flowers: almost 5 inches long, with the pedicels and the corolla almost 3 inches across; and add to

that, that it lasts in bloom a considerable time—four or five weeks. It entirely overshadows the old and elegant *Clivia nobilis*, but differs as much from it as a Black Hamburg grape would from a *Charter Oak*, or other *sui generis*. Mr. Andrew Bridgeman might corroborate my eulogium of this plant, he being the only one in New York, to my knowledge, who possesses it, and, as far as known, has developed the same degree of beauty as the one I refer to. ANTHOPHILUS.

[The criticisms of Anthophilus are straightforward. We have already expressed the conviction that the Brooklyn Society is too much indebted to outsiders to be able or willing to give them the cold shoulder now. Where a good feeling prevails, they produce a happy spirit of emulation. In getting up Horticultural exhibitions, we have had a much larger experience than any other person about New York or Brooklyn, and we can not forget our deep obligations to foreign exhibitors; we can say this without in the least impairing our obligations to local ones. Our motto is, that we should all work together for good. In regard to the other matter, we repeat the hope that the society may be able to treble its numbers without going into this particular form of the commission business. We trust that this and all other measures will be so framed as to conduce to the honor and welfare of the society. In regard to slumbering, Anthophilus seems to have confounded another society with that of Brooklyn. We have seen the *Clivia miniata* referred to, and endorse all you say in praise of it.—ED.]

EDITORS HORTICULTURIST:—Allow me to correct you as to what I said in the memorandum I sent you about the earliness of the Adirondac Grape, *i. e.*, "That it is two weeks earlier than the Northern Muscadine and Hartford Prolific, and from four to six weeks earlier than the Isabella." It was three or four weeks earlier than the Delaware this season. It may be proper to remark, however, that the difference may be less further south, for the reason, that when the cold and wet weather sets in, in this climate, which is usually by the middle of September, such grapes as are not ripe mature very slowly. The Adirondac ripens before cold weather, hence its superiority. As to its quality, I hope to send you samples next September that will satisfy you. Very truly, JOHN W. BAILEY.

Plattsburgh, N. Y.

[Will you please let us know the conditions under which the Adirondac was growing, nature of soil, exposure, etc.?—ED.]

MR. EDITOR,—*Dear Sir,*—The prompt notice which my inquiries received in your October number encourages me to seek information on some other points in which my own limited experience can not assist me. First, as to the use of potash and lime, those important ingredients in the food of fruit trees, if it is true, as has been stated, that, applied *together* in the soil, they become valueless, how does

practical skill meet this difficulty either before or after planting, so as to secure to the plant the full benefit of each substance.

As ashes are difficult to get here, may not potash be used, in some way, to even better advantage, and how can strong ashes be safely applied? In all these interrogatories I refer especially to garden culture. Is not guano valuable, and how should it be used? Lime from the gas-house, too, although dangerous in the hands of novices, is it not a valuable fertilizer?

Supposing the border for a fruit tree to have been prepared to the proper depth, with good surface soil well supplied with vegetable mould and other insoluble substances, as, for instance, lime, bones, etc., may it not then be left to receive, *afterward*, and from time to time, stable manure, potash, etc., in a liquid form?

Again, in regard to manure as it is obtained in this vicinity. The proportion of straw, which is about one bundle to the manure of one or two horses a day, seems to me too large to admit of the addition of the mould of leaves, wood, and turf. These last must be more valuable for fruit trees than straw, but under these circumstances might they not make an excess of vegetable matter, excepting in very stiff clay?

The autumn here has been rather favorable for ripening the grape. The Isabella and Catawba have reached that state popularly known as "ripe," that is, of the berries, two thirds would be of a ripe color, and of these a portion would be quite sweet, while, perhaps, a third of the bunch would be unfit to eat.

I do not believe these varieties ever become in this region more mature than this, not often as much so. Commonly we have frosts in September, which are sometimes followed by a term of pleasant weather. For this after season, our vineyards ought to be prepared by a board coping, one or two feet wide, placed upon the top of the trellises.

On the subject of peach culture, which, with us, is very difficult and uncertain, we hope to hear soon from the HORTICULTURIST.

Very respectfully yours, "A SUBSCRIBER."

Owego, Tioga Co.

[There can be little objection to putting lime and ashes together in a compost heap with muck for *immediate* application: we have often so used them, and with great benefit. We have also applied them separately (at different times) as top dressings, with marked results. We do not, therefore, hesitate to recommend their application in this way, independently of all theory. It is certain that potash and lime are sometimes found in the same soil in a neutral state, just as we would have them. Potash may be mixed with dry muck, road sweepings, old headlands, etc., and applied as a top dressing: it will soon find its way to the roots of plants. We can not recommend the use of guano, unless vegetable matter is very abundant: the results on the growing crop are generally good, but the

after effects are bad ; that, at least, is the result of our experience, as well as of a good many others. Gas lime, though dangerous in inexperienced hands, is not without its value : insects usually become very scarce where it is used. It should be applied very sparingly.—In regard to the border for fruit trees, we answer, yes, and with the best results.—The proportion of straw in your manures is not too large to admit of the addition of the mould of leaves, wood, and turf; and there is no danger of your getting an excess of vegetable matter in your soil as long as you can get a little shell lime. Vegetable matter is the great want of nearly all soils in this part of the world : we are never afraid of having too much of it.—We do not believe you can depend upon the Isabella and Catawba for a crop in your region one year in ten ; we think you might realize a fair annual crop with some hardy and early ripening kinds. You ought to have a nice little grapery.—We will try not to forget your wants in Peach culture.—ED.]

MR. P. B. MEAD :—*Dear Sir* : Will you have the goodness, by the magic stroke of your pen, to disperse the *mist-icism* which encloses the following queries ?

What is meant by the term “*regular bearer*,” as used in our common fruit books ? Does it mean *always* “annual bearer ?” or does it *sometimes* refer to the mode of distribution of fruit on the tree ? If it is not used with uniform meaning it had better not be used at all. So with regard to the phrases “*uniform bearers*” and others.

Can trees, which bear *alternate* years only, be rendered *annuals* in bearing, with certainty, *permanently*, and with *little cost*? If manuring be one determining cause to this end, when should it be applied ? In the bearing or non-bearing year ? In the spring of the bearing or fall ? In the spring of the non-bearing or its fall ? When do fruit buds commence forming for a crop ?

*East New York, Sept. 14th, 1861.*

S. J. HUTCHISON.

[“Regular bearer,” “uniform bearer,” and “annual bearer” are convertible terms ; that is, they are used to express one and the same thing. If we should answer your next question collectively and dogmatically, we should say, No. If a tree which is very fruitful be judiciously thinned of its fruit, it will the next year, if no extraneous cause intervene, bear a fair crop. In general terms we may say, if a proper system of thinning be adopted, so that a tree is at no time allowed to overbear, a fair crop of fruit may be expected every year. Manuring is indispensable to continued fruitfulness, but is not a “determining cause” of “annual bearing.” Fruit buds commence forming, in the sense you seem to have in view, with the first growth in spring, and the process is continued till the fall of the leaf. Your question, however, is by no means clear.—ED.]

## BROOKLYN HORTICULTURAL SOCIETY.

At the meeting held October 29th, Mr. Pardee took the chair. [From this point to the January meeting we shall be compelled to condense very materially our reporter's copy. Our own remarks will not only be greatly condensed, but in some cases omitted entirely. This is the only way in which we can begin square again.] The first hour was devoted to miscellaneous subjects. A lady wished to know how to destroy the *Aphis* on the roots of her China Aster, etc. Mr. Fuller recommended tobacco, either in solution or by fumigation. The same lady wished to know how to flower Fortune's Yellow Rose. Mr. Weir said the trouble is well-ripened wood; the growth should be strong and well-ripened in the fall; the plant should rest through the winter. Mr. Fisher Howe asked how to get a good growth. Mr. Weir replied, if pruned back much you get wood, but not flowers; plant early and cultivate carefully.

Mr. Fuller asked, do flowers improve by being pinched back? is a grape vine stronger by being pinched? his vines not pinched were twice the diameter and four times the weight of those pinched. Thought it best not to pinch at all till September. Mr. Marin thought October best; roses do better, and the wood ripens better. Mr. Howe thought it might exhaust the root, if not pinched in. Mr. Brophy asked if it was not common among cultivators to strengthen the root by pinching in. Mr. Marin asked if each particular branch has not a particular root. Mr. Fuller said such a theory had been advanced, but it was not so. Mr. Pardee asked Mr. Cavanach if it did not strengthen a plant to cut it back. Mr. Cavanach thought it did. The lady above mentioned also asked if she could keep Geraniums through the winter by hanging them up by the roots. Several gentlemen replied that they had so kept them. Mr. Brophy asked if any one had seen the Rose of Jericho. Mr. Howe replied that he had one, and would bring it. The same lady again asked how flowers and leaves could be preserved so as to retain their colors. Mr. Weir recommended laying them between blotting paper till well dried. Mr. Marin suggested putting the blotting paper between bags of heated sand. Mr. Howe said a German card press, with absorbing paper, would answer for ordinary purposes. Mr. Dunham said he had over 2,000 specimens; put them between blotting paper, and changed till all moisture was absorbed. Mr. Falconer said that autumn leaves varnished with Canada balsam will keep their color. Flowers are best attached with gum tragacanth; if mixed with arsenic, insects will not trouble it.

Another question asked was, how best to keep Fuchsias during the winter in private dwellings. Mr. Cavanach said, in large pots; give plenty of water and light, and moderate heat. Mr. Fuller preferred to keep them dormant in a dry cellar. Mr. Marin kept his in an upper hall, watering once in two or three weeks. Mr. Fuller said the tenderest rose could be kept by covering six inches deep in a dry corner of the garden. Mr. Pardee asked if Roses are generally injured by transplanting. Mr. Fuller thought some improved. It was asked if the frost would hurt roses thus buried. Mr. Fuller said it would not. It was also asked if Verbenas could be kept in frames as half hardy plants. Mr. Burgess said they could, giving air on warm days and shading from sun. A gentleman wanted to know how to keep Dahlias and Tuberoses. Mr. Fuller recommended a hot and dry place for Tuberoses, 70° to 100°; for Dahlias, 40 to 45°. Mr. Burgess kept his Dahlias on the ground, heat from 75° to 80°. Mr. Funham succeeded well with Dahlias and Tuberoses in a cellar. Mr. Anthony kept his bulbs in newspapers. Mr. Phelps had 50 Tuberoses which did not flower last year nor this. Mr. Weir never had any trouble; his generally flowered too much. [We suggest that he divide with Mr. Phelps] The lady who asked the above questions offered the *HORTICULTURIST* for 1860 or 1861 for the best collection of dried plants or flowers arranged in a bouquet; also the *Working Farmer* for 1860 or 1861 for the best collection of pressed flowers or leaves in a book or frame. [How beautifully the true woman shines out here.]

The rest of the evening was devoted to grape culture, the question being the best time for pruning. Mr. Pardee thought February the best time for fruit, and fall for wood. Mr. Fuller said fall pruning made more wood than spring pruning. Mr. Leavitt cut down a large vine last fall, and the growth of wood was enormous. Mr. Fuller recommended him to cut four buds in the fall and two in the spring. Mr. Cavanach had always seen as fine a crop from fall as spring pruning. Mr. Fuller advised to prune always in February; if cuttings are wanted, prune in the fall. Mr. Quin thought Mr. Fuller wrong about pruning in February; had practiced fall pruning ten years. Mr. Burgess asked if vines were hurt by pruning in winter. A negative response was given. Mr. Burgess asked if it hurt a vine to bleed, which elicited nothing definite. Mr. Burgess asked how long a vine would be productive with good treatment. Mr. Fuller replied, 400 years; if well pruned, a vine a hundred years old should be no larger than one ten years old. Mr. Howe had seen a vine at Charleston as large as his body. Mr. Leavitt asked if slaughter house

manure was injurious to the outer border of a viney. Mr. Weir thought not, if properly composted. Mr. Howe asked the result of planting a dead horse in a border. Mr. Cavanach had seen a tree planted over a dead horse; the tree died; nothing would grow there for several years. Mr. Fuller recommended putting the carcase in a muck bed or with lime. Asked about the Concord dropping. Mr. Quin had no trouble with the Concord, but the Hartford Prolific dropped badly. Mr. Weir said all grapes would drop if too ripe. All seemed to think the Hartford Prolific dropped badly. Mr. Pardee said the Delaware was considered the most difficult of all vines to propagate; had succeeded by placing them in the ground as soon as taken off. Mr. Howe called attention to a basket of flowers from Mrs. John Humphries, very beautifully and tastefully arranged; thought some notice should be taken of Mr. Humphries' death; he was a very worthy man. Offered resolution that a committee be appointed to prepare resolutions expressive of the Society's loss.

The subject selected for next meeting was, "Cuttings and their Propagation." Adjourned for two weeks.

The Society met again November 13th, Mr. Degrauw in the chair.

Mr. Mead opened the meeting by pointing out the merits of the various plants and flowers on the table. [We shall condense all this by saying that Mr. Chamberlain, of Newport, R. I., exhibited a Peach tree, a Grape vine, Strawberries in fruit, two baskets of plants, a Pineapple in fruit, all grown in moss baskets. Mr. Burgess exhibited flowers of Daphne cneorum. Mr. Messenberg exhibited a variety of cut flowers. Mr. Wakeling exhibited water-color paintings of flowers. Mr. Williamson exhibited oil paintings of fruits and flowers. Messrs. Dailledouze and Zeller exhibited seedling Carnations. Mrs. Humphries exhibited a beautiful bouquet made up loosely.]

Five questions were handed to Mr. Mead, relating to the grape vine, all of which were duly answered. Mr. Mead then called on Mr. Fuller to speak on the subject of cuttings. Mr. Fuller said cuttings should be made in the fall before the wood hardens, or they will have to be soaked. Roots will form in a lower temperature than the tops. Cuttings of nearly all hardy plants should be planted in the fall. Currants are the first to lose their leaves. Currant cuttings were made on the 15th of September, and roots are now formed. In making a cutting, cut square across the base of a bud. Soil should be good and rich. Make a trench as deep as the length of the cutting; press the earth around the base; it prevents its drying up; then fill up the trench. Cut out all the eyes except the two top ones, to prevent suckers. In planting a Quince cutting, pack the cutting close at the base; success depends much upon this; leave only one eye out of the ground. Gardeners say Manetti Rose stocks do not grow well out of doors; 95 per cent. of his have grown like the sample shown. In making grape cuttings, the old-fashioned way was two to four feet long; but the best are two eyed cuttings, grown as explained at last meeting. The eyes of the Delaware are so close that we must take three eyes. The Delaware is the hardest wood we have, and if left till spring, becomes very difficult to start. Does not care about the quantity of roots, but quality. Is not particular about all the roots; would prefer to cut them back, and cut the top to correspond. The Delaware is said not to grow well from cuttings out of doors. Mr. Brophy asked if it was not a favorite mode to grow Delaware cuttings in pots. Mr. Fuller, Yes. Mr. Dunham asked if there was any advantage in exposing the roots of the Quince in winter. Mr. Fuller, No, unless you want to freeze the borer. Mr. Dunham had tried it several years, and had four times the fruit. Mr. Mead said he looked first at the quality of roots, and then at the quantity; and then went on to explain how Currants, Mignonette, Sweet Alyssum, Primulas, Pansies, etc., could be grown from cuttings. He then called on Mr. Chamberlain to explain how he prepared his moss baskets. Mr. Chamberlain replied that the baskets were real things, and not shams, as any body could see. Prepares his baskets of moss, sand, charcoal, and bone dust, chiefly bone dust. The Pineapple had been growing about eighteen months. Mr. Mead asked if he put the plants directly in the baskets. Mr. Chamberlain said, No; first root them in soil. He thought they would last three or four years; had tried them two years. The composition is only add'd once, but liquid manure is used twice a week. Mr. Howe said he had never seen a finer specimen of Pine either in Europe or the West Indies. Mr. Bridgeman said that placing cuttings near the edge of a pot, is a rule proved by every theory of cultivation. Mr. Brophy asked how to propagate the Buffalo Berry. Mr. Bridgeman advised him to layer it.

It was concluded to continue the subject at the next meeting, and the Society adjourned.

The Society met again on Tuesday, November 27th, Mr. Pardee in the chair.

Mr. Mead said it was gratifying to see so many present, etc. [We omit again with saying that Mr. Burgess exhibited Daphne cneorum, Mrs. Humphries a beautiful basket of flowers, Mr.

Messenberg a collection of cut flowers, and Mr. Quin Easter Beurré pears. There were also photographs of Mr. Chamberlain's baskets exhibited at last meeting. Mr. Barnard exhibited shell marl from New Paltz Landing.] Being called upon, Mr. Barnard said that shell marl is found in nearly every county in the State (N. Y.). Farmers have tried it and are satisfied. It is the remains of shell fish; when first taken out is compacted in masses. This specimen was found in a bed from which three or four feet of muck had been taken; then solid shell marl twelve to fifteen feet deep. The bed is from a third to half an acre, and is now a beautiful pond of fresh water, surrounded by solid rock. Sowed half a meadow with marl; it produced three times as much hay as the other half, manured in the usual way. He thought it would do for Long Island soils. He related other instances of remarkable results. Marl can be found almost every where above the Highlands. Used it on his vines, and ripened his fruit before his neighbors. Will send a barrel to any one to try. Forty bushels to the acre will carry a piece of land five years, with rotation of crops.

Mr. Brophy had used this marl, and spoke very favorably of it. He had used it principally on roses and grape vines.

Mr. Pardee called attention to a book of preserved leaves and flowers, gathered from all parts of the world; thought it a happy idea of preserving mementoes of each place one visits.

Mr. Mead heartily endorsed Mr. Pardee's remarks, and alluded to Mrs. Downing's fine collection of ferns.

The regular subject for discussion then came up, and Mr. Fuller, at the request of Mr. Pardee, reviewed his remarks at the last meeting on making cuttings. Thought cuttings of hardy plants should be made in the fall; if the wood gets hard, it must be soaked. Some evergreens grow readily from cuttings; take young wood in the summer, and put it in a hot-bed. *Arbor Vitæ* he would put in a cold frame, in nearly pure sand; whitewash the glass, and keep the ground from freezing, they will root by spring. Some will root in open ground, if shaded. Thought the Buffalo Berry could be propagated. Mr. Pardee asked how fruit trees were grown from cuttings. Mr. Fuller replied that Plums were best propagated with a mallet-shoot. Had grown Pear cuttings, and had them form fair trees the first year. Had grown some kinds of fruit trees in Wisconsin that he could not grow here. In Georgia Peach cuttings will grow if stuck in slits made in a long shoot, but not in Brooklyn. The soil of Georgia is warm, something like a hot-bed. Mr. Pardee thought it was warm enough there now. Mr. Fuller said that all deciduous plants must be layered in the fall or early in the spring. Layers from hardy plants should be made when the plants are dormant. In layering evergreens we do different; some are twisted and some are tongued. As a general thing nurserymen and gardeners do not know how to make layers. With grape vines, leave every third eye on the layers; let the shoots run up six or eight inches in July; then fill in gradually; bend the vine short to stop the flow of sap. Evergreens like the Norway Spruce are resinous; if wounded in the spring or fall, the wound becomes covered with resin, and will not root. Evergreen cuttings should be made in summer, when the sap is active and thin: cuttings will sometimes stand a year without rooting. Evergreens do not imbibe or perspire, and that is why they keep the verdant condition so long.

Mr. Barnes had experimented with grape cuttings; had succeeded with nearly all except the Delaware. Would layer it in a pot. Most were anxious to get a top, but he thought it best to get a good root.

Mr. Carpenter had had some experience in cuttings; had tried a different method with Evergreens; took laterals in the month of May, planted in the ground, and pressed the earth close. Lost five out of a hundred of the Siberian *Arbor Vitæ*. Made a large amount of roots. Take the twig close up; put it in the ground with the green part out. Had tried it two seasons with perfect success.

Mr. Bridgeman said, every propagator has a mode of propagating different things. In England a propagator devotes his whole time to the subject. No employer can enter a propagating house. No one can do justice to this subject by standing here every night in the year. It is just as easy to make fourteen plants as one from that twig, (taking up a piece of *Arbor Vitæ*.) He would just as soon think of budding a tree in a dormant state as layering a plant in a dormant state. He did not find fault with Mr. Fuller's mode, but he had one of his own. Every man has a different mode.

"House Plants" were selected for the next meeting, and the Society adjourned.

The Society met again December 10, 1861, Mr. Degrauw in the chair.

Mr. Mead opened the meeting as usual, with remarks on the plants and flowers on the table. [Mr. Bridgeman exhibited Hyacinths, Tulips, Tuberoses, etc. Mr. Isaac Buchanan exhibited a collection of rare cut flowers. Mrs. Humphries exhibited a basket of flowers.] Mr. Mead called on Mr. Bridgeman for remarks on his bulbs.

Mr. Bridgeman said, there is a want of knowledge why some tuberoses will not flower. He would like the gardeners to say whether the six roots he held in his hand would flower. Called on Mr. Brophy.

Mr. Brophy usually consulted with counsel when he had any thing difficult to decide upon. [He is a lawyer.] Had submitted the case to judges: this bulb will flower, and will produce such a flower as would do credit to the garden of Eden.

Mr. Bridgeman expressed the belief that it would not bloom at all.

At this moment the gas went out, and while the meter was being fixed, Mr. Mead talked about growing plants in rooms. The gas being lighted again, Mr. Bridgeman resumed his remarks. He said the season here is too short to bring forth a tuberose unless the bulb is perfect: a perfect bulb is one in which the flower-stalk rests upon the base; if it starts a quarter of an inch it will not flower another year. This bulb is just showing the flower-stalk; this is perfect, and none will flower but this. The discovery is to be made while the bulb is ripening. These bulbs have flowered, and will not bloom again; they are exhausted. Can judge by the depression on one side where the flower has been. Firm, solid, and not over large bulbs usually flower. Under the most favorable circumstances tuberoses will not always bloom.

Mr. Brophy asked what was meant by the season not being long enough.

Mr. Bridgeman replied, that if the season had been six weeks longer, this bulb would have ripened its flower-stalk. A long season does not always favor the tuberose.

Mr. Brophy asked if the difficulty would be obviated if grown altogether in a green-house.

Mr. Bridgeman said, not altogether successful; the atmosphere is not desirable; the tips of spikes are apt to dampen off. Some bulbs are propagated by flakes, each flake forming one or two bulbs; place flakes in damp moss, and leave there till the bulbs are formed.

It was asked, What is the effect of detaching the small bulbs from the tuberose?

Mr. Bridgeman replied, that the bulbs would be much stronger by leaving them on till perfect. He then explained how the flower is formed in the hyacinth, narcissus, and tulip. He said it required not so hasty a hand to display the tulip; it is composed of circular cones throughout.

Mr. Mead thought he should have given a *snacking* illustration of tulips. (The ladies smiled approvingly.)

Mr. Pardee showed a pretty book of ferns from Mrs. Downing, prepared for children.

Mr. Mead then resumed his remarks on the cultivation of plants in rooms. [These remarks occupied nearly an hour, and we omit them here for reasons already stated. Our readers will have our views on this subject soon. Our object now is to "bring up" these proceedings.—ED.]

The subject of Parlor Plants was continued over to next meeting.

The next meeting was held January 14, 1862. Mr. Degrauw being ill, Mr. Barnes was placed in the chair.

Mr. Mead opened the meeting by remarks on the objects on the table. [These remarks we omit again; they were chiefly on skeleton leaves. We will add briefly, that Mr. Platt, of Clinton Avenue, exhibited an exceedingly beautiful vase of prepared or skeletonized leaves; Mr. C. B. Miller exhibited paintings of autumnal leaves and groups of flowers very nicely done; Mrs. Humphries exhibited a beautiful bouquet.]

MR. FULLER.—There is a gentleman here to night, Mr. Knox, the "Strawberry King," who has a strawberry patch of fifty acres. I should like to hear from him, and why our market is supplied by the small berries of New Jersey.

MR. KNOX.—Mr. Fuller has placed me under embarrassing circumstances. Some friends have injudiciously styled me the "Strawberry King." I do not profess to be even a "Prince." In my opinion "A. Fuller" claim can be made to this title by a member of your Society.

When a toddler, I have often strayed away to the Strawberry patch on my father's farm, and it has always been a love of mine. If you undertake to prove Eve was not tempted by a Strawberry, you will find it a difficult matter; and if by the bright, polished surface of the Triomphe de Gand, I would look charitably upon her.

The soil I prefer is a light clay limestone. This I have, and think it the best. I stir the ground, for a crop of two or three years, not to a great depth, 8 to 10 inches. For producing Strawberries ten or more years, stir from 20 inches to 2 feet, after drainage. I do it with an ordinary plow and lifter, by oxen. Plant in rows  $2\frac{1}{2}$  feet apart, and 10 inches apart in the rows. I raise no fruit the first year, but take off the fruit-stems and all runners as fast as they appear. My Strawberries are in specimen, propagating, and fruiting beds. For a few years I stirred the soil with a Strawberry cultivator, but now do not disturb the soil at all; the whole ground becomes a network of fibrous roots, and their little mouths say, as Jeff. Davis says to the North,

"Let us alone." As a protection in the fall, I prefer rye straw thrashed with a flail and bound in bundles. I attach great importance to this covering; frost will destroy much embryo fruit if not protected; it acts as a mulch, and keeps moisture in the ground. I have discarded every implement except the hoe, and use that only for weeds. I speak with considerable caution about varieties. Hovey's Seedling is a very valuable seedling; does well at Boston and Cleveland, but does not do well with me with all my care. Some values deteriorate. Buist's Prize has run out, and is nearly discarded by growers at Pittsburg. We have to suit different tastes; some like tart and others like sweet, and we are trying to educate tastes at Pittsburg, so that they will ask for what they want. It is important to lengthen the season; the ordinary season is three weeks, but by selecting different kinds we can extend the season to five weeks. Baltimore Scarlet, Jenny Lind, and Burr's New Pine are good early Strawberries. Trollope's Victoria, Kitley's Goliath, Nimrod, and Buist's Prize are good later ones. Medium, Brighton Pine, Boston Pine, McAvoy's Superior, Scott's Seedling, Moyamensing, Downer's Prolific, Fillmore, Golden Seeded, British Queen, Vicomtesse Hericart de Thury, Wilson's Albany, and last, but not least, the Triomphe de Gand. Wilson's Albany is certainly a very valuable variety, although our Boston friends condemn it; it improves by years, and is preferred by many. But the Strawberry of all strawberries, the one I would plant if confined to one, on 10 feet or 100 acres, the Strawberry for the eye, the palate, or the pocket, is the Triomphe de Gand. It produces an abundant crop; not so much as the Wilson, but an acre of the Triomphe de Gand is more profitable than an acre of the Wilson. Nearly all the Triomphe de Gand are uniformly large, and they remain so to the end of the season. It is the most beautiful of all Strawberries, and would draw the attention from all others. It throws the Wilson into the shade. It carries well; have sent them to Erie, Cleveland, Cincinnati, Philadelphia, Buffalo, and New York. Had orders from New York for the whole crop. In marketing, my experience is this: Produce a good berry, handle it well, bring it before the people in handsome and attractive order, and they will pay for it; and it will be a long time before the market can be overstocked with fine fruit. In conclusion, I would say that horticultural pursuits bind men more closely and strongly together. If horticulturists had the settlement of our national difficulties, it would not be long before they would beat the swords into plowshares, and spears into pruning hooks, and make the whole country blossom as the Rose.

In answer to questions, he said, Pinch off the berry with the stem on; don't pull them. The Wilson may be made to produce 5 to 600 bushels to an acre. We can average 300 bushels to the acre with the best varieties properly cultivated.

MR. MEAD.—Have you tried any of our Long Island varieties?

MR. KNOX.—Sorry to say I have. In speaking of Long Island varieties, however, I have no reference to Mr. Fuller's Seedlings.

MR. FULLER.—I am glad Mr. Knox has given us his opinion on the Triomphe de Gand. I would prefer one more acid, but think the Triomphe de Gand the most noble berry ever cultivated; can depend on 300 bushels to the acre. All say in New Jersey the little Strawberry is the most profitable; but I think 25 bushels to the acre is all that they get. I think it ridiculous that New Yorkers should have to get their finest berries from Mr. Knox.

MR. KNOX.—Mr. Hallock has made a box that answers the purpose. It is much less expensive to gather large berries than small ones. My mode of culture met with much objection and general outcry at Cincinnati. By expending \$100 I can make one acre pay better than five in the old way. I care nothing for old plans as long as I can invest my money at 100 per cent., and I have good reason to know that mine pays that.

MR. MEAD.—I regret that the "Strawberry Prince" is not here to-night to hear the "Strawberry King." The Triomphe de Gand is the most valuable foreign variety we have. A native Strawberry will be introduced soon, I think, that will fully equal it.

[The remainder of the evening was taken up with brief remarks on Room Plants and an essay on Window Gardening by Mr. Cavanagh. This brings our report up to the last meeting. Hereafter we shall go on as usual.—ED.]

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#### FRUIT-GROWERS' SOCIETY OF WESTERN NEW YORK.

THE *Fruit-Growers' Society of Western New York* held its seventh Annual Meeting at the Court-house, in the City of Rochester, on 8th and 9th January, 1862. For an account of its proceedings, somewhat condensed, we are indebted to Secretary Bi-sell and the *Rural New Yorker*. The meeting was one of the largest ever held. At eleven o'clock A. M. of 8th, the President, E. MOODY, Esq., of Lockport, took the chair, and after the usual forms of organiza-

tion, Committees were appointed to nominate officers for 1862, and to report subjects for discussion.

The Committee upon Subjects reported eleven questions, of which the following six were discussed, and five, upon the culture and pruning of the Pear, were passed over for want of time. The Society held four sessions; the attendance was very large, and the discussions upon each subject very interesting and somewhat protracted.

#### APPLES.

*Question 1.—DWARF APPLE-TREES*—What is the best stock for Dwarfing the Apple, and what are the comparative merits of Dwarf and Standard Apples?

*Question 2.—Select lists for family use*—Which are the best 24 varieties? Which of the 24 are the best six summer varieties, two for the table, one for baking, and one for cooking?

*Question 3.—Which of the 24 are the best six fall varieties as above?*

*Question 4.—Which of the 24 are the best twelve winter, to embrace two for stock feeding, two for baking, two for cooking, and ten for the table?*

*Question 5.—What is the best form of an Apple-Tree? and what is the time for pruning?*

#### GRAPES.

*Question 6.—What are the best six varieties of Grapes for family use, and which are the best two for vineyard purposes?*

#### PEARS.

*Question 7.—What are the best eight varieties for market, and on what stock should each be cultivated?*

*Question 8.—What are the best ten varieties for family use, embracing a succession through the year, and on what stock should each be cultivated?*

*Question 9.—What is the best form of pruning the Dwarf Pear? and what the best for the Standard, and the best season for doing it?*

*Question 10.—What are the advantages of pinching?*

*Question 11.—What is the cheapest and best method of cultivating the Pear?*

The Committee to nominate officers for 1862 reported the following named gentlemen, who were unanimously elected:

*President*, Hugh T. Brooks, of Wyoming; *Vice Presidents*, John J. Thomas, of Union Springs; John B. Eaton, of Buffalo; S. N. Holmes, of Syracuse; *Secretary*, C. P. Bissell, of Rochester; *Treasurer*, W. P. Townsend, of Lockport.

Upon motion of H. E. Hooker, Esq., a vote was unanimously passed, thanking C. P. Bissell for the very able manner in which he has performed the duties of Secretary of this Society for the past four years, and the vote ordered to be entered upon the records.

Upon motion of William Brown Smith, of Syracuse, twenty-five dollars were voted to C. P. Bissell for his services for the past year. This sum Mr. Bissell peremptorily declined. Upon motion of D. W. Beadle, of St. Catharines, Canada, it was voted to expend this twenty-five dollars in some suitable testimonial to C. P. Bissell, with a suitable inscription, expressing the kind regards of this Society. Mr. Bissell positively refused to accept the office of Secretary unless the Society reconsidered these votes.

Mr. Smith then moved to reconsider his motion, and to withdraw said resolution, and instead thereof moved that the Society create Mr. Bissell a member for life, and present to him a parchment certificate of the fact, as a testimonial of our appreciation for his past services. Mr. Bissell thanked Mr. Smith for these resolutions, saying, "By this resolution you will honor me more than by any other course you could possibly take, thereby doing credit to the disinterestedness of my motives in laboring for the good of fruit-growing, and to my love for the society of gentlemen like yourselves."

The Committee upon Fruits, which was D. W. Beadle, of Canada, George Moody, of Lockport, and J. Salter, of Rochester, reported fifty-eight varieties of Pears, fifty-one of Apples, and several of Grapes, &c., upon exhibition.

The discussions were opened with

#### DWARF APPLES.

*I.—Dwarf Apple-Trees*—What is the best stock for Dwarfing the Apple, and what are the comparative merits of Dwarf and Standard Apples?

Mr. BARRY, being called upon, said he could not say any thing new. The subject seemed to

be pretty well understood. Two stocks are used for dwarfing the apple—the Paradise and the Doucain. The Paradise makes a very small tree, suitable for gardens; the Doucain is a tree of larger growth, suitable for pyramids or half-standards, and might be of advantage in the West, and other places, for orcharding. In answer to an inquiry, Mr. B. said that dwarfs probably would not be as long-lived as standards, because the stocks are raised from cuttings. The fruit of the Doucain is small and sweet—that of the Paradise very small and insignificant. Had never known stocks of either grown from seed. The cuttings root freely. Had seen trees on Doucain stocks twenty years old apparently as healthy as ever, and likely to live a score of years longer. On this stock trees do not bear much earlier than on their own roots—some five or six years after planting. On Paradise stock trees bear very young. On the former, trees should be set out about twelve feet apart, and on the latter from four to six feet. Mr. B. knew of no successful experiments with the Doucain stock in orcharding, and could not say that it possesses any advantages over the free stocks for general market purposes.

## SECOND SESSION.—BEST SIX SUMMER APPLES.

*II.—Select lists for family use—Which are the best 24 varieties? The six best summer varieties, two for the table, one for baking, and one for cooking?*

Mr. BARRY said the Early Harvest is the most popular summer apple in America. It is cultivated in every State in the Union as far south as the apple is cultivated. Had seen it at Memphis, and further south, as good as at the North.

W. P. TOWNSEND, of Lockport, spoke favorably of the Primate, Early Joe, Early Harvest, and Red Astrachan, and the Sweet Bough for baking.

Mr. BEADLE, of St. Catharines, C. W., said in Canada the Sweet Bough is the most popular sweet apple, and the Red Astrachan excellent for cooking and eating.

H. E. HOOKER recommended the Sweet Bough for baking, and the Early Harvest, Early Joe, Primate, and Red Astrachan for eating and cooking.

Mr. ELLWANGER said the Summer Rose is one of the best summer apples. The Early Joe is a delicious eating apple, but is very apt to be imperfect and spotted. The Early Harvest is good for the table, as all know; the Sweet Bough for baking, and the Red Astrachan for cooking.

Mr. SMITH, of Syracuse, recommended the Early Harvest, Red Astrachan, and Sweet Bough for cooking, and the Primate and Summer Rose for the table.

Mr. BARRY considered all the summer apples that had been named excellent, and well worthy of general culture, except, perhaps, the Early Joe, which is often very spotted, and the tree a poor grower. The Early Strawberry is a beautiful, excellent apple, of a peculiar and fine aroma, and the tree a good grower. An excellent market apple. Would name it as one of our best summer apples. It remains longer in perfection than almost any other summer apple, ripening gradually and remaining on the tree longer than most apples. Tree an erect grower, with slender branches.

Dr. SYLVESTER, of Lyons, thought very highly of the Early Strawberry. The tree is a handsome and erect grower. Fruit ripens gradually for five weeks. For family use this peculiarity is valuable, but objectionable for market, as it is less trouble to pick all the fruit of a variety at once. Would place it among the four best. Mr. S. would want the Early Harvest for all purposes, Sweet Bough for baking, Red Astrachan for cooking, and Early Strawberry, Summer Rose, and Primate for table.

E. Moody, of Lockport, thought the Primate the best early apple. Ripe nearly as early as the Early Harvest, and does not spot, while the Early Harvest is subject to it, and Mr. M. thought may have to be discarded, for the difficulty is increasing, and varieties subject to it should be rejected. The Primate is entirely free, and also the Red Astrachan. The Sweet Bough is a good apple, and bears shipping well. Would like to retain the Early Joe, although it does spot. Some gentlemen present thought the Primate tree rather tender, and Mr. M. said, in reply to inquiries, that it is as hardy as a Greening, and very much like it in growth.

The question, as originally reported by the committee, was for the four best summer apples for the dessert, and at this stage of the discussion, as many considered the number too small to give a good supply for family use during the season, at the suggestion of L. B. LANGWORTHY and H. E. HOOKER, it was increased to six.

Mr. BARRY thought the Golden Sweet a very desirable summer sweet apple, though perhaps rather late to be called a summer apple. It is very productive, the tree a rapid grower, and bears early; an excellent market apple.

Mr. Moody agreed with the last speaker in his opinion of the Golden Sweet. It is an excel-

lent baking apple, but not as good for the table as the Sweet Bough, and will not bear carriage as well. Most of the Sweet Boughs of Niagara county are purchased for the Boston market.

Mr. FISH inquired if there were not two varieties known as Golden Sweet.

H. N. LANGWORTHY knew of two, one a greenish apple and worthless; but the true Golden Sweet is an excellent apple, and next to the Baldwin in productiveness.

Mr. BARRY said a line had been handed him, requesting his opinion of the Jeffries apple—a beautiful, striped, very superior dessert apple from Pennsylvania. It is an excellent summer apple, and the gentleman who called his attention to it should favor the meeting with his opinion.

Mr. VICK said he was too much occupied in reporting the proceedings to take part in the discussions, but he was anxious this fine apple should be brought to the notice of the meeting. It is excellent and beautiful.

Mr. HOOKER had the Jeffries in bearing the last three years. It is an excellent table apple, and the finest acquisition we have had in many years.

Mr. HOAG, of Lockport, had received scions from Pennsylvania, which had fruited, and he considered the Jeffries a very superior dessert apple.

The President, H. T. BROOKS, Esq., thought the growing of apples for feeding pigs an important matter for farmers. Pork is cheap, and it is necessary that cheap food should be used in making it.

Mr. BEADLE said a neighbor fed sweet apples to pigs in great quantities, first using the Golden Sweet and later the Tolman Sweet.

L. B. LANGWORTHY considered good marketable apples too valuable to feed to pigs. Let the pigs have the run of the orchard, and pick up all the wormy, fallen fruit; but apples that are fit to sell are worth more than they would be made into pork.

H. N. LANGWORTHY said he would sum up his opinion of the Golden Sweet in a few words: it is good for feeding pigs, not very good to eat, good to bake, and good to sell before half ripe. Dealers will buy it, and it is considered pretty good before it hardly begins to ripen.

#### AUTUMN APPLES.

##### III.—Which are the best six fall varieties?

Mr. HOOKER considered the Munson Sweet a superb sweet apple, productive, and good either for baking or the table.

Mr. ELLWANGER said Munson Sweet is the finest autumn sweet apple we have, with a bright red cheek, which makes it attractive. Excellent for baking.

Mr. SMITH found the Munson Sweet a very profitable apple. Tree hardy and productive, and the fruit excellent. The Fall Jenneting good, and the Colvert a handsome apple and an enormous bearer, always fair, and an excellent cooking apple. The Rambo and St. Lawrence are fine for late fall.

Mr. BARRY.—Jersey Sweet ranks among the best sweet apples of its season.

Mr. SYLVESTER had cultivated Munson Sweet a few years, and liked it. The Pound Sweet is the best autumn sweet apple. It is more juicy than any other sweet apple. For feeding there is nothing like it.

Mr. SMITH inquired if Jersey Sweet is generally fair. It is an excellent apple where it can be grown, but for the last few years it had grown spotted and gnarly with him.

Mr. BEADLE said Jersey Sweet is an excellent apple in Canada, the fruit fair, and the tree productive. Ripe in October. Succeeds in almost all soils.

Mr. FISH thought Jersey Sweet one of the very best of fall apples. Very tender and rich.

Mr. MOODY said Jersey Sweet, as known by him, is unworthy of cultivation, knotty and worthless. If they happened to get a fair one it was very good.

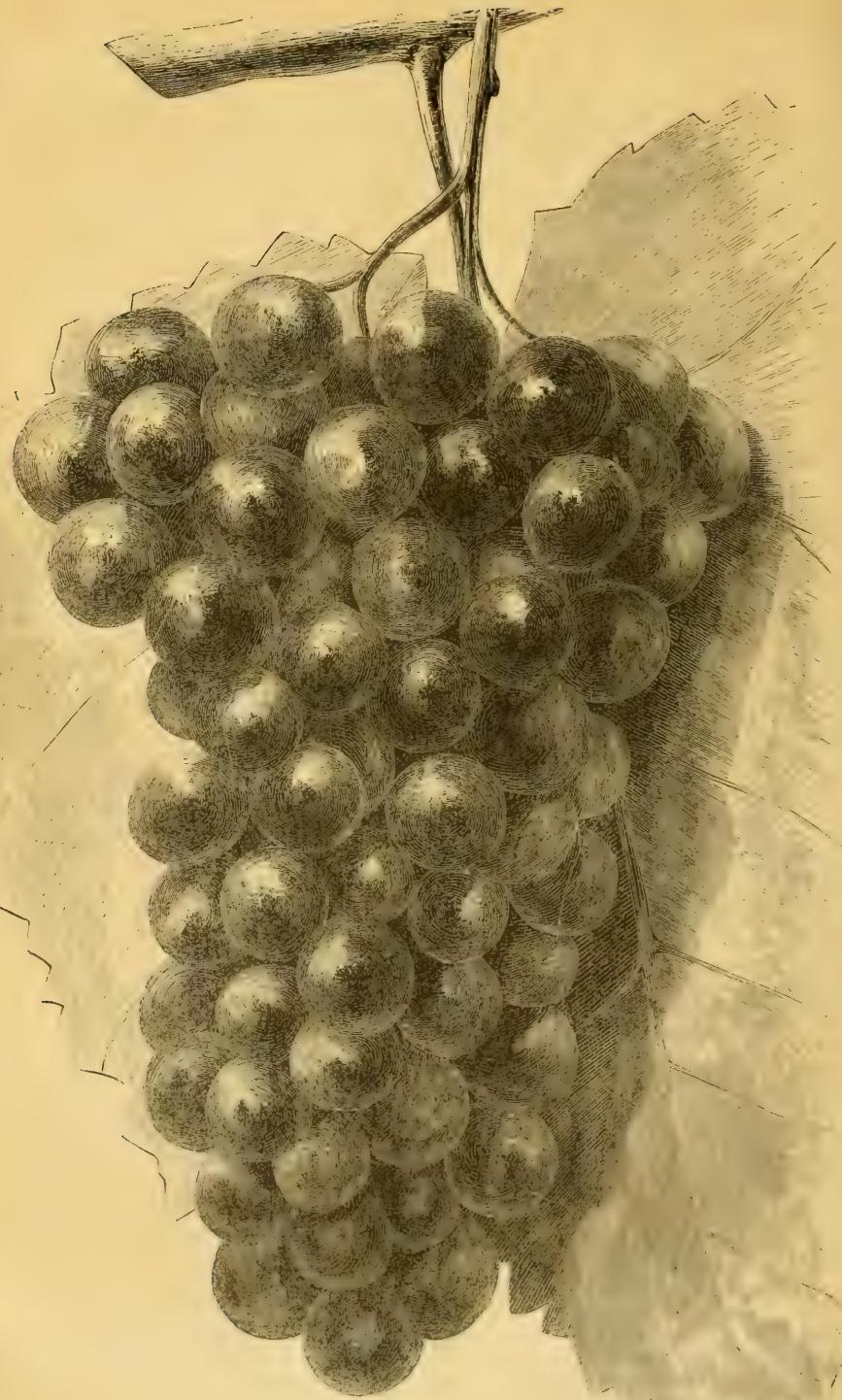
H. N. LANGWORTHY agreed with Mr. MOODY. It is an unprofitable apple, knotty, and falls from the tree.

Mr. HOAG had seen the Jersey Sweet excellent in Niagara county, on clay soils.

Mr. ELLWANGER found the Jersey Sweet to be a fine apple, but very often small and spotted. Spoke well of Duchesse of Oldenburg, Gravenstein, Twenty Ounce, and Pound Royal for fall apples; and the Munson Sweet for baking. In answer to a question, Mr. E. stated that the Gravenstein resembles the Colvert, yellowish-white ground, striped with red.

(To be continued.)





A RIBES CANTABRICO.

(Engraved for the HORTICULTURIST.)

THE

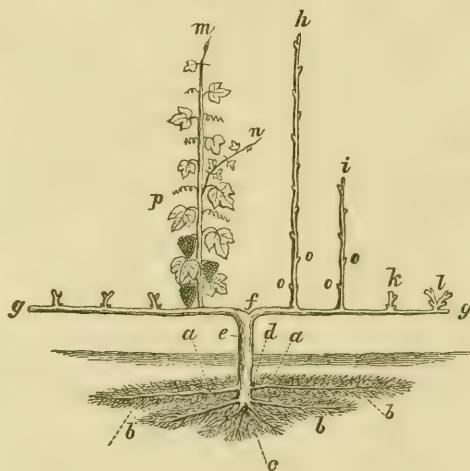
# HORTICULTURIST.

VOL. XVII.....MARCH, 1862.....NO. CLXXXIX.

## Hints on Grape Culture.—XIII.

N the present article we shall finish our description of the vine, so far as may be necessary to understand the meaning of the leading technical terms hereafter to be used. The roots, trunk, etc., will be sufficiently understood from our last. Referring to the engraving, the reader will find at the top of the trunk, *d*, where it begins to divide, a point marked *f*; this is the *head* of the vine, in reference to which the terms "heading in," "heading down," etc., will be used. From the point *f* there are two branches proceeding horizontally right and left, called *arms*, which are marked *g*; more precisely, in reference to their direction, they are called *horizontal arms*. On the right arm is a long branch marked *h*; this is a *long cane* or rod, and the one next to it, marked *i*, is a *short cane*, the latter being from one to three feet long, and the former four, six, or more feet long, the adjectives in these cases being used in quite an arbitrary manner. At *o*, *o*, on these canes, are the *buds* or *eyes*, which are *single* or *double*, as there happens to be one or two. Farther along on the same arm, at *k*, is a *single spur*, and at *l* a *double spur*; they are called single or double, as they are intended to produce one or two fruiting branches; a *spur* is annual wood cut down to one, two, or three eyes, and is either a short spur or a long spur. On the left arm is a branch marked *m*, with foliage, etc. The small branch, *n*, proceeding from the axil of one of the leaves, is called a *lateral*; though only one is shown, a lateral usually proceeds from the axil of each leaf; and it is of these laterals or small side branches that so much is said about "pinching in." At *p*, on the same branch, is a small leafless twig called a *tendril*, which twines around any thing within its reach with great tena-

city, and thus forms a firm support for the vine. The tendril is always on the side opposite the leaf. A little lower down on the same branch the tendril is replaced by a bunch of fruit, which, like the tendril, is on the side opposite the leaf: they always alternate each other. We have known artists, oddly enough, to represent the fruit and the leaf as proceeding from the same side. The *leaf-stalk*, foot-stalk, petiole, etc., is the stem which unites the leaf to the branch. The shape of the leaf, the size and form of the bunch, the form and color of the fruit, and other matters of a similar kind, will form the subject of a distinct chapter at some future time.



[Engraving, showing the principal parts of the vine. It is drawn to a scale of a quarter of an inch to the foot.]

*Disbudding* is a term often used, but it is little understood by novices. It is simply to rub off or cut out a bud; for example, if you rub off or cut out the buds, *o*, *o*, *o*, on the cane *h*, you disbud it. *Pinching in* is an operation performed chiefly on the laterals, and constitutes the principal part of *summer pruning*; it consists of pinching off the ends of the young and tender branches with the thumb and forefinger; if the operation is delayed too long, the knife will have to take the place of the thumb and finger, unless these appendages in the reader's case happen

to be much tougher than ours. *Dormant buds* or *eyes* are such as have not been developed into branches; these are always abundant on the vine, especially on the old wood, and it would hardly be possible to cut an old vine down to within even a foot of the ground without developing a number of them. Nature is bountiful to the vine in this respect. *Stopping* is sometimes used synonymously with "pinching in;" but we shall confine its use to the removal of the ends of the principal growing branches; thus we shall *stop* a branch and *pinch in* a lateral. *Bleeding* is a word used to denote the flow of sap caused by pruning late in spring.

We believe we have now explained most of the terms necessary to an understanding of the processes of pruning and training; there are others which can very well be explained as the subject proceeds. Those we have given, however, are indispensable to the beginner, and he should learn them thoroughly if he would make grape-culture a pleasant and easy study.

In conclusion, it may be well to recapitulate the parts of the vine indicated by the engraving: *a*, primary roots; *b*, secondary roots; *c*, the base of the vine; *d*, the neck; *e*, the trunk; *f*, the head; *g, g*, the arms; *h*, a long cane; *i*, a short cane; *k*, a single spur; *l*, a double spur; *m*, a growing cane furnished with foliage, etc.; *n*, a lateral; *o, o*, buds; *p*, a tendril. Among other important terms to be remembered are, *fruit wood*, *annual wood*, *biennial wood*, *disbudding*, *pinching in*, *stopping*, etc.



## LANDSCAPE ADORNMENT.—No. XXI. "PLANTATION."

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 37 Park Row, New York.

THE embellishment of ground may be very properly considered under two heads, one of which relates to its money value, and the other to its beauty and enjoyment; and as, in the progress of taste in all matters belonging to country life, the beautiful has necessarily become an essential part of the value of real property, it would appear to be good policy to do something that shall enhance the prospective value of lands seeking a market.

Landed property remote from large cities and villages seldom acquires a fancy value; yet we know that its attractiveness or chances of sale are increased many fold if fine trees and shrubbery have been judiciously preserved or planted, and home surroundings and comforts been cared for. The argument used among some of the practical cultivators of the soil, that the land is of more value for other purposes, is about the most frivolous that could have been suggested, as there is more money in an ornamental tree at any period of its existence, than there is in the most remunerating farm crop that could be grown on the ground

it would occupy, and the proper labor attendant on one is not more than required by the other.

It is only necessary to compare the handsomely-wooded accessories of the farm house or country residence with the bare, unsheltered dwelling, exposed to wintry blasts and summer suns, to note the difference; a difference for which neither economy nor utility can afford a reason.

The greatest charms of landscape beauty are wholly dependent on trees and shrubbery; without them fine moulded surfaces and highly finished roadways become tiresome. The variety of form and color, the division of ground and vistas, the ability to conceal defects and develop beauties, are all due to the attractive and variable qualities of wood.

With the constantly increasing love of rural life, and the universal good taste that characterizes those who seek it for the health and enjoyment it affords, it would seem like presuming upon a good deal of patience and a want of appreciation, to offer for sale for a home, land that is barren of trees; yet we know that real estate, destitute of all the available values that handsome wood attaches to it, is held year after year at the same price as that which possesses the needful attraction. The sale of a single piece of property at a good price, has heretofore had the result of bringing up the values of all in the neighborhood to about the same figures, without considering that they are actually destitute of the primary wants of a tasteful purchaser; and it is only when such property has been in market for years, that the discovery is made that high prices are not entirely dependent upon convenient and rapid access to town.

The retired merchant or business man, who seeks repose in a country home and its attendant pleasures, naturally prefers to purchase property not wholly destitute of wood, as, no matter how many examples may be quoted, it is no easy matter to convince one advanced in life that he may hope to plant fine trees, witness their development, and enjoy their beauty and protection. However much one might wish to accomplish this, it is nevertheless a true and judicious policy to pay an over liberal price for that which either nature or art has to some extent shaped and clothed to one's liking. It is an undertaking of considerable importance to one past middle life, to start and construct a fine country seat from the treeless farm; it is productive of too much hard work and annoyance to be sought after; and to those who know, it is actually a matter of economy to pay a round price for a place that has at least advanced into the first period of its existence. We speak now of that class of improvements which are to a very great extent dependent on time to develop their beauties. The construction of buildings and roads, the necessary graduation of ground, etc., can be easily accomplished in a year or two; but to successfully embellish a place with wood must necessarily be a work of time; one, however, quite proper and agreeable to those who do not undertake it when on the down-hill side of life. Planting for immediate effect in this climate, must be at the expense of future effect; removal of

large trees is an uncertain matter, except by the most skillful hands; and even then it requires time to wear off those indications which to an experienced eye tells the story of their removal.

Within the railroad influence of large cities, accessible by the business class, fine and attractive sites command a liberal price; yet there must be a strong inducement in the way of location, views, etc., to work off a naked site at the ruling rates. It is a fact that a moderate amount of desirable wood characterizes those first taken. To any one who is credulous regarding the value of ornamental trees, and the rate of interest they pay, let him advise with the owner of a naked but otherwise desirable location, that has been on the market for a series of years, and he will get an admission of value that perhaps will startle him. "A couple of hundred dollars judiciously expended, ten years ago, in ornamental trees, would have enabled me to sell this place readily, and at a price that would have covered more than a hundred fold the cost, labor, and interest on them." For it must always be considered that attractiveness is essential to a purchaser willing to pay a fancy price; *you must catch his eye.* This is thoroughly understood in every other business, particularly so by every merchant and manufacturer, and its application to real property is of even more value.

Ornamental planting in its early stages, if properly managed, is not an expensive matter, and may be looked upon as an investment that will pay as good a rate of interest as money securely put out in any other form. We might almost say that it will pay a fair interest upon the reasonable value of the whole property, and in many instances we might name this would be no extravagant assertion.

There can not be devised in this appreciative age a more certain form of making real estate desirable, than by beautifying it with ornamental wood. Properly managed, the moment the planting is finished, a value has been added to it that many times exceeds the cost of the trees and labor; and as each succeeding year adds to their size and beauty, there is a fund accumulating that fully compensates for any anxiety or anticipated loss, when obliged to hold property over periods of depreciation.

If those who hold real estate for a market would take into consideration these facts, they would find them productive of valuable practical results. The purchase and planting of small trees is not an expensive matter, and our numerous and well-known nurseries afford the greatest choice at prices less than they could be taken from their native localities. Indeed, a gentleman who is an acknowledged authority on all matters relating to landscape art, has stated that he can import evergreens from England at less cost than he can obtain them from the neighboring hills, when the time spent in selecting specimens, the labor of their removal, and the chances that they will live and do well, are taken into consideration.

## PROTECTING THE BIRDS.

BY BROOKLYN.

Do you not think this matter comes within the jurisdiction of Societies? I send you our local paper, with some remarks called forth by a proposition brought forward in the Common Council to import English Sparrows to destroy the inch-worms. That our birds are rapidly decreasing in number, especially in the vicinity of towns, is a lamentable fact; and as a necessary consequence, the insects increase.

The greatest destroyers of birds I take to be children, their parents often, through thoughtlessness or ignorance, encouraging them in it. Should think the best means to overcome this would be to widely disseminate the knowledge of their usefulness; teach the children to respect the nests, eggs, and the birds themselves. If this were done, they would soon take as much pleasure in encouraging as they now do in destroying them. A ready mode of spreading this knowledge would be through the public and other schools; interesting illustrated reading books upon the subject would be good.

Many grown people require educating upon this point as well as the children; they would be very apt to learn from them. Laws upon the subject should be passed and—there's the rub—*enforced*; but a proper public sentiment will do more.

I suppose it may be stated that all our birds, except those of prey, are useful in destroying insects; even that much derided individual, the Crow, probably does more good than harm; he and the Robin and Cat Bird are annoying at times, but should judge it better policy to limit their depredations by scaring, rather than destroying them. The grain and fruit they take are, probably, but small wages for the service they perform.

In connection, how few have any respect or feeling for toads, or know how valuable they are to the gardener.

Apropos of insects. One of the most effectual modes of combating them is, now, at this slack season, to go round with an old knife, and grope in the cracks of fences, trees, outbuildings, etc. The quantity that can be found is astonishing; and every one destroyed now, prevents the hatching of hundreds or thousands of the feeding ones next summer. The common directions for dusting with ashes, lime, etc., is to do it when the dew is on; it then sticks to the leaves, and makes the plants look unsightly, if it does not seriously injure, by choking them. I, therefore, have adopted doing it on a still day, when the foliage is dry. The bodies of the insects against which this means is effectual (Pear Slug, for instance) are viscid, and the dust will stick to them only, which is what is wanted.

Picking off is the only remedy against many. To those who object to fingering them, I would suggest the use of a pair of light spring-steel nippers, set to open

about half an inch at the points. A slight squeeze will settle them; or they may be dropped into a cup containing a little common oil. A small, spring-bottom can of oil is a good weapon against the hairy caterpillars sometimes so numerous. Two or three drops squirted on them effectually disposes of them.

It is recommended to hang wide-mouthed bottles, half filled with sweetened water, among fruits attacked by wasps and flies. Tried and abandoned it, thinking it attracted them in greater numbers, and the fruit suffered more than it would have done had they not been there.

Think the value of the carnivorous beetle (chiefly represented here by the well-known Lady Bird, invaluable, both in the grub and perfect state, as the enemy of Plant Lice and Squash Bugs) is not sufficiently known.

The Humble Bee should be respected. *Vide* Darwin, who states it is the only insect that can impregnate Red Clover.

Ants—Are they not useful, if sometimes annoying? As the attendant upon the *Aphis*, may they not prevent them damaging the plants as much as they would if their excretions were not removed? Do they not act as impregnators in closed houses to which bees have not access? I thought they did me good service in a Cucumber frame this spring.

Earth Worms—Do they really do any damage? Are they not consequent and attendant upon disease, rather than the cause thereof? They are made a great bugbear in many books, and much stress is laid upon how to avoid them: "Place broken crocks at the bottom of the pots; stand them upon a layer of cinders, shells, etc., to avoid earth worms." To avoid stagnant moisture, I think, would have been more correct.

In the open ground, should think the presence of worms in large numbers proof positive of defective drainage; and if plants were diseased, as would most likely be the case, should lay it to that, and not to the worms.

[We are obliged to you for the article and accompanying papers. The subject is entirely within our jurisdiction. The resolution now before the Common Council of Brooklyn, appropriating \$500 for the importation of English Sparrows, ought not to be entertained. Such an appropriation, in our opinion, would be a useless waste of money. We have insectivorous birds enough of our own, and some quite as fond of the home of man, and as easily domesticated, as the English Sparrow; but, like the dove that went out from the ark, they can find no place of rest in our cities; even the house Swallow soon disappears. Aside from other causes which combine to produce this result, we can look for nothing else so long as stoning and shooting innocent birds, and stealing fruits, are not regarded as crimes to be reprobated and punished. Birds would, beyond all peradventure, keep down this insect pest, but it is certain that we can not have the birds, and we must resort to other means, and these means are within the reach of the Common Council of Brooklyn, if they are in earnest in this matter, without resorting to the vandalism of cutting down the beautiful trees which adorn the city, as proposed

by some of the members. We can not help losing our patience at a proposition of this kind. "Brooklyn" suggests that we "now, at this slack season, go round with a knife, and grope in the cracks of fences, trees, outbuildings, etc." This is good advice; but our city fathers need be under little necessity for groping, (provided they are *not* "all right,") for millions of nests may be plainly seen on the trees all over the city. Those \$500 may be much more wisely spent at home, especially during these times of distress. Some of our readers will be amused at the idea of catching caterpillars with nippers and a drop or two of oil; we do not believe they will survive either when vigorously applied. We think Mr. Darwin is altogether mistaken in supposing that the Humble Bee is the only insect that can impregnate Red Clover; but this fact will not detract from any usefulness that may pertain to the Humble Bee. The Lady Bird we regard as a friend, but do not feel sure about the ants. So, too, we regard earth worms as very useful friends, but we prefer that they should not get in our pots; when they do, we are certain to give them a dose of lime water to drive them out. We do not think their destruction in the open ground at all desirable.—ED.]

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AN HOUR IN THE VINEYARD.

BY JNO. S. REID.

"Tis winter, and the snow lies cold and white on the leafless vines. Not a single grape is found in all the vineyard, and the snow-birds chirp mournfully among the waving canes. The vital principle appears dead or dormant, and the bud, enwrapped in its waxen sheet, shows to the unpracticed eye no sign of life. Yet, but a few months will revolve, and vernal winds will fan the dry branches of the vineyard, and the life-giving principle will arise and fill the fibres of the vine; the bud will burst its cerements, and the young leaf will spread its green folds to the sun, and the dew and the summer's rain will cause it to bloom and blossom, until the tender clusters become full of the melting, invigorating juice, which cheereth the heart of God and man.

How beautifully prophetic is the emblematic vine of the destiny of man. Death comes with his snowy mantle, and enwraps us in his cold embraces; the grave entombs us from the eye of friendship, and a deep silence reigns all around. But soon, ah, soon, the voice of spring is heard among the dry bones, and the vital forces resume their action; bone flies to its fellow, and the brain, warmed into life, awakes the heart from its long sleep, and sends the vital current through every artery and every vein. The eye assumes its light, and the cheek its roseate covering, and life immortal invites the once lonely sleeper to its pure abode. No one can follow horticulture for any length of time, without feeling how wholly dependent he is to some superior Power, no matter what his teachings heretofore may have been; for as soon as he becomes the student of this

beautiful science, the beauties of nature attend his steps and surround him on every side, so that he naturally leans to the side of virtue, and becomes a purer and better man.

But I am moralizing instead of naturalizing, as many of your readers will say ; hence, for the present, I will throw aside the mantle of the moralist, and talk with nature in one of her stormiest moods.

January 16, 1862. On surveying the vineyard, I found the snow covering the frozen ground for some inches ; the thermometer had fallen to  $6^{\circ}$  under zero, and the weather in general was uncomfortably cold. Several of the grape-vines broke brittle as a pipe-stem : the tips of the canes of the Catawba, Union Village, Anna, Clara, El Passo, and Bland, were all injured. My Delawares were younger than the above-named grape-vines, and showed signs even worse than them. The Concord, Hartford Prolific, and White Fox, all looked hale and hearty. Icicles hung as mock diamonds from the frozen branches of the Peach, Plum, Cherry, and Apple ; every thing seemed to wear the appearance of sadness ; so that, feeling rather uncomfortable myself, I left the vineyard, and sought refuge and recreation in the wine-cellar.

From my former article you will perceive that I am not a professional vintner, only growing my own grape-vine, and making my own wine ; and as you appear to have got into the channel of the Rhine, and seem anxious to know how wine is made from the pure juice of the grape, I for one will add my mite to the general stock of information, and perhaps may afford some benefit to those who are as ignorant as myself.

The best wine grape which we have in the West for general purposes, is the Catawba, although it is said that the Delaware yields a *finer* wine. The grape ought to be thoroughly ripe before pulling ; not *dead* ripe, as some would call it, otherwise it loses much of its vinous spirit, and does not yield in quantity so much as when pulled at the proper time. The press used by me is a portable cider press, one which contains about two bushels of grapes ; and in pressing, such power is used as will force a juice having a density and sweetness of not less than  $75^{\circ}$  in the wine scale. This weight of *must* will yield about  $7\frac{1}{2}$  per cent. of alcohol, and with less than this the wine will not keep. In pressing, the juice is strained through a wire sieve or fine small basket, to keep back skins, bruised grapes, etc., yet allowing enough of the albumen and mucilage to pass into the barrel. The barrel should not be less than 40 gallons, and over this, up to 1,000 gallons, the better.

The *must*, when ready for fermenting, should be taken into a warm cellar, not less than  $60^{\circ}$  Fahr., and fermented under water ; by this I mean, that a siphon should be run into the bung-hole, large enough at one end to close the hole, while the other end is plunged into a cup of water, so that during the process of fermentation the aroma will be retained, and nothing but the gas be allowed to escape. This process occupies from ten to twenty days, according to the richness

of the *must*; and the practiced ear will know when to stop the fermentation, by listening to the modulations of the action of the wine. It is then filled up, bung full, with other wine, and allowed to stand on the lees until spring, when it is racked off, and placed away in a cool cellar for maturing and fining all of its impurities. Wine, until it is one year old, ought not to be bottled, but frequently racked during the first and second year.

At the end of the first year, if the *must* has been good, and the manipulations well attended to, the wine is fit for use; but it will taste rough on the tongue, and somewhat sour to the palate; hence many pronounce *pure* wine no better than hard cider. A chemical analysis of pure wine places tartaric acid, grape sugar, and water, as the ingredient component parts; and the more of this acid, with an excess of sugar, makes the richer and better wine, the sugar overcoming the acidity of the tartar. Some grapes, instead of having an excess of tartaric acid, have almost none, and their excess is either citric or malic acid; hence the wine is sour, and will not mature or keep. The Isabella, Concord, and some of the wild grapes, contain citric acid instead of tartaric, while the apple and some other fruits have the malic acid in excess; consequently hard cider is the result. In bottling, I never bottle under one year old, and then I cork and seal, and lay away in sand in a temperate cellar of about 50°, placing the bottles on their sides. When the wine is fully ripe and ready for use, I need not inform you how to drink it, although there is more art in this than in all the rest.

Perhaps you may remember of the wager, once laid in Paris, as to the proper mode and manner of drinking wine, and how it was decided. If you do not, believing you to be a scholar and a gentleman, I refer you to the *litterati* of that famous city, and to the Grand Monarch, who now wields the sceptre of France. So much for wine!

In my next communication, I will give you a synopsis of the mode and manner of making composite wine in the West. By composite wine I mean, that which is not *pure*, but such as is made from grapes not fully ripe, where either sugar or brandy is necessary, to give it strength, in order to keep. In the meantime, let me say, that cleanliness is an all-important adjunct in wine-making. The press, funnels, barrels, every thing should be clean. The cellar pure in air, and cooling in its nature. The casks, fumigated with sulphur matches, and sweetened with juniper berries; and the *must* drawn off in the spring, when the weather is mild, clear, and dry. For every bushel of ripe Catawba grapes the yield in *must* should not be less than three gallons; and for every gallon of *must* there should be a return of 90 per cent. of pure wine. Every acre of grapes, when in full bearing, should yield 250 gallons of *must*; if more than this, the wine is deficient in strength and quality, and an injury to the next year's crop.

Although a mere amateur in the culture of the grape, and far from being an expert in the manufacture of wine, my neighbors think that my wine is hard to beat; and as a sample of some I now have on hand, in order that you may test

its quality, I send you by express two bottles, one of my red-cork, and one of my green, so that you may report on them at some of your horticultural *conver-sazone*, when you and your friends meet.

[We are very glad of the pleasure of spending another "Hour in the Vineyard" with you, and trust the pleasure may be oft-repeated. Your mode of making wine is a good one, and is explained in such a plain, practical manner as to make it of much value to our readers. Such directions, faithfully carried out, will result in the production of a good *pure*, wine, and we very much doubt the propriety of making any other. The two bottles were received, for which we thank you. We hope we shall not disappoint you in pronouncing the "*green cork*" below the mark. The "*red cork*" is the nearest approach to Mr. Mottier's wine of any that we have received, and that is the highest compliment we can pay it. If it is ever our good fortune to come and see you, we hope you will have in the cellar a good supply of the "*red*."—ED.]

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#### LIQUID GRAFTING WAX.

BY HORTICOLA.

MR. L'HOMME-LEFORT (or, as others spell the name, *Lhomme-Lefort*) invented, not many years ago, a grafting composition, which, when generally known, will, no doubt, supersede all others now in use, either for grafting purposes or for covering wounds of trees. It is very cheap, very easily prepared, and keeps, corked up in a bottle with a tolerably wide mouth, at least six months unaltered. It is laid on in as thin a coat as possible by means of a flat piece of wood. Within a few days it will be as hard as a stone. In addition to all the advantages indicated above, it is not in the least affected by the hot sun of our summers, nor by the severe cold of our winters; it never softens nor cracks when exposed to atmospheric action or changes. A single instance which came under my own observation, will suffice to show this clearly.. In April last the bark of a double-flowering peach tree had been destroyed by some goats several days before I noticed the mischief. There was hardly a place as far up as the goats had been able to reach, where any bark was left; the few remaining particles were in no connection whatever; the wounds were rough, and had already turned brown by an exposure so long continued. Although I despaired of the possibility of saving the tree, yet I determined to try it by an application of the fluid grafting wax of L'Homme-Lefort, which I had just purchased for the first time.

The result is surprising. The tree is as vigorous as ever, the wounds having healed over under the cover of the hardened grafting wax, which, after the lapse of so many months, sticks as firmly to the tree as if laid on a few days ago.

As long as the inventor kept the preparation secret, it was sold at very high prices. Even now it is unknown to many; I feel, therefore, induced to give the recipe, as follows:

Melt one pound of common rosin over a gentle fire. Add to it an ounce of beef tallow, and stir it well. Take it from the fire, let it cool down a little, and then mix with it a table spoonful of spirits of turpentine, and after that about seven ounces of very strong alcohol, (95 per cent.,) to be had at any druggist's store. The alcohol cools it down so rapidly that it will be necessary to put it again on the fire, stirring it constantly. Still the utmost care must be exercised to prevent the alcohol from getting inflamed. To avoid it, the best way is to remove the vessel from the fire when the lump that may have been formed, commences melting again. This must be continued till the whole is a homogeneous mass similar to honey.

After a few days' exposure to the atmosphere in a thin coat, it assumes a whitish color, and becomes as hard as stone, being impervious to water and air.

[A good liquid grafting wax has long been a desideratum. We have seen the above as used by "Horticola," and are much pleased with it. It is better than the shellac preparation, and is much cheaper. It is an admirable preparation for covering wounds in trees.—ED.]

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### BIGNONIA VENUSTA—BUT WE WON'T TELL.

BY FOX MEADOW.

JUST as I received the last month's HORTICULTURIST, Mr. Editor, I was about sending you a "secret" or two, concerning that most lovely—not *new*, but *old* Bignonia. Not for any particular benefit to be derived from such information by the "gardeners," but for that class of men known as the "Brooklyns," who, when they go into a confectioner's shop and buy a plum cake, come out rather "miffed" if they can not get the secret of its compounds given to "boot" with the pittance paid for their cake. Well, sir, I thought the remarks of your correspondent very unjust, when he lays the whole of his grievances flatly on the shoulders of that most honorable body to which your most humble servant is proud to belong; for we think that of all men, and of all trades or professions, there are none in existence, more cheerful and willing to give to the world all they know, and without reserve, than that class of men called gardeners. There is no paper, magazine, or periodical of any description, published either in America or Europe, that gets half the support of practical experience that is subscribed to Horticulture. We believe that gardeners are the most *social* of all the men in the world, and that there is nothing that they have just discovered that they are not eager to divulge. It is true, that some of our amateur friends, who ask a question or two, and are

delicate in asking about some simple little things as details, which they think they can get along without, spoil the whole in consequence. A female acquaintance of ours, who is considered very famous for making English plum pudding, was asked one day at the dinner-table, by another lady friend, "how she made the 'pudding' to look and taste so very delicious?" Why, she replied, by putting together so much of such ingredients as she then named. Her friend seemed much pleased with the idea of getting at the secret of this pudding making, and said that when at home to-morrow, she would make one like it. She did make it, and brought part of it to be tasted by our lady friend who gave her the receipt. But, good gracious! what do you think, sir? In the place of using *milk* to mix it up with, as she was directed—to make it look brown, as she thought, she used common black molasses, and consequently it was nearly the color of the pot in which it was boiled, and smelt—oh! like an old rum keg. "You don't like my pudding, do you? I made it just as you told me, *only* I used molasses, because I thought it would answer the purpose of milk and sugar." That lady went home quite in a "miff," Mr. Editor, and told all her neighbors that Mrs. A. had some "craft mysteries" about the pudding making, and that if she had only told her the consequences of the use of the black molasses in the place of milk and sugar, a great many more puddings would be eaten than there are now, and that, consequently, much more flour and fruit, as well as suet and milk would be sold by the trade. Indeed, Mrs. A. was much behind the age, and in need of enlightenment. "Brooklyn," wherever you are, whether in America or Europe, *write your questions to the Editors of Horticultural papers*; and let them be as simple as they possibly can be; *some* of the readers of such journals will be benefited by it, through the answers given in reply. The cost by this means is only about three cents, and then the "Brooklyns" will at all times be independent of those men who pertain to "craft mysteries," and at the same time yield a valuable support to our Horticultural literature.

Now, Mr. Editor, I had almost forgotten to tell you about that *Bignonia*; but what I am going to say, you need not tell those "Brooklyns," unless they offer some apology for the nice character they have given the gardeners as a *whole body*. If this suggestion is complied with, which we think the justice of the case demands, you are at liberty to hand over a little more of the "craft mysteries." It would be useless, Mr. Editor, for me to ask you if you knew such a plant as *Bignonia venusta*; but there is one thing about it, *perhaps*, that you don't know, and which I will tell you just now. Sometimes this beautiful creeper, when growing in the border or a large tub in the conservatory, will flower very profusely, and sometimes scarcely at all. We have seen immense plants spreading nearly over the whole of the glass roof of the house in which it was growing, with but a few of its handsome panicles to charm the hearts of those who delight in the beauties of flowers. Ah, sir, much depends on how things are grown to be able to properly appreciate their true value; and we are often very liable to throw old things

overboard, not because they are not good, but because they are *old*. It was only the other day that a "crack" plant grower walked into a house we know of, and as soon as he entered the door he stood bewildered, when at last he stammered out, "Good heaven! what is that over there!" and away he rushed to it like a madman. We thought he was going to devour the plant, or run off home with it; but as soon as he got right at the plant, "Pshaw!" said he, "*old Linum tigrinum!*" It was an oldish plant taken up in the fall and potted, about 3 feet in diameter, and as full of its beautiful little yellow trumpets as it could hold; so our friend was taken in for once. Very beautiful, till he found out what it was.

To flower this variety of the *Bignonia in a pot* is what we wish to tell you, which is not commonly done, or not done at all this way, except by the individual who is now going to give a little more of "craft mysteries." *Modus operandi.* Put a young plant early in the spring into a good sized pot, rich compost, such as would grow a good grape vine. In May, put it outside; if the plant has two or three shoots, cut them back to 3 or 4 inches. This will be the means of producing more shoots. Train in straight lines along some fence or trellis, and enable the plant to grow as rapidly as possible by giving plenty of water. Plunge the pot in the ground up to the rim, but put a slate at the bottom to prevent the roots getting into the ground. Tie, and train the creeper as it grows. In the fall, when the time comes that all such plants should go into the house, up with this one; put some stakes into the pot, and twist the shoots around the sticks, tying them on carefully. This ends the work. Such plants *in pots* will flower most beautifully. The next season, *cut back* the previous summer's growth to within one eye or bud of where it started from, and perform the operations of the first season, as described. In this way the *Bignonia venusta* will flower in pots as freely as *Pelargoniums*. The ends of the young shoots should never be nipped or cut back, as the largest panicles of flowers are produced there. The plants grown or planted out in the borders in glass structures, should have their annual wood pruned back as soon as the plants are out of flower, just in the same way as gardeners spur prune grape vines. Cut off all the young growth every year as soon as flowering is over; and if the sash can be taken off the house where such plants are growing, so much the better. It propagates freely by layers, and will strike from cuttings of very young wood in a brisk bottom heat, covered with a bell glass. The plants when growing in pots will take strong doses of liquid manure, which will enhance and strengthen their growth. Now, Mr. Editor, we have already trespassed too much on your valuable space, so WE WON'T TELL ANY MORE.

[We will finish that last sentence for you by adding the words, "this time," and then it will be just like you; for of course you will tell *us* more; but we will not tell "Brooklyn" a word of it, unless he puts in a "bill of exceptions," and vindicates the honor of a profession of which you are one of the brightest ornaments. We will just tell you, *sub rosa*, that we shan't believe a word about that

plum pudding till your lady friend sends us a piece of it. Our amateur readers, and a good many others, will thank Fox Meadow for telling them how to bloom the beautiful *Bignonia venusta* in pots. It is sometimes an intractable plant, even in the hands of good growers; but this simple method of growing it in pots ought to make its cultivation much more general, as it will certainly make it much easier. Fox Meadow's "secrets" are always worth knowing.—Ed.]

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### THE LOGAN NURSERY AND ITS EVERGREENS.

BY DR. G. P. NORRIS, WILMINGTON, DEL.

A SHORT walk from the Nicetown cars brought us to the well-kept grounds of Wm. Bright, Esq. During the past year the improvements have been numerous and extensive; it would take considerable more than civil war to dampen the enthusiasm of its energetic head. Among the new things seen on this occasion were two span-roofed graperies; one about 70 by 24, the other 200 by 14, all finished in the best style, and to be heated with hot water. The houses are, of course, destined to be worked entirely on the inside border system; and whatever may be its advantages or disadvantages, it is always pleasing to find a man practicing what he preaches. Mr. Bright believes that inside borders, made as he describes, will accomplish all that he claims for them; and the best test of his faith is the considerable sum he has invested in the experiment. It is a pleasant place to visit: one always comes away brighter; and if one does not gain information, it must be his own fault, and not that of the proprietor, who is not only ready, but eager to impart information on all subjects pertaining to his line of business.

In an adjoining house, also span-roofed, growing in the inside border, all the new grapes may be seen. Of the Trentham Black Mr. Bright has not a very great opinion; it is a large berry, dark purple color, (when we saw them they were not fully colored,) but thinks it will prove an indifferent keeper. Quite a different opinion has Mr. Bright from Mr. Fox Meadow, as I found by his reply to my interrogatory in the January *Gardeners' Monthly*, respecting the merits of the Barbarossa. He thinks the Barbarossa will not well bear the restraints of the inside border as well as some of the others. High in his estimation stand the Buckland Sweetwater and the Bowood Muscat. Bidwell's Seedling and Ingraham's Hardy Prolific Muscat are now on their way across the stormy ocean, imported at a heavy outlay expressly for Mr. Bright.

The new graperies to which we have alluded, are all finished in the best style, painted, and glazed with the best glass. The trellis in these houses is original with the proprietor. We would attempt a description, but understand that a full description, with drawings, will shortly appear in a new edition of the Grape

book. The success of this book shows Mr. Bright's efforts are not unappreciated by the horticultural community; the fact of the book having run through two editions and a third demanded in so short a time, speaks well for its merits. Mr. Bright's pot vines are worth looking at; their culture is here made a specialty, and as much care taken of them as a man would of his children. At this season they are at rest, and carefully tucked away in a very dry cellar, with light and air admitted in fair, favorable weather; they repose quietly until the warm April days, unless sooner demanded for the forcing-pit. Many varieties are cultivated for fruiting, but the principal demand is for Hamburgs and Muscats, with some inquiry for the Frontignan family, and sometimes the late grapes. We were also shown the new vineyards built for Mr. Drake and Dr. Moore of Germantown; they are both lean-to houses, with inside detached borders. They are both costly, but for Mr. Drake's grounds we would have preferred seeing something more ornamental—more in unison with the costly character of the dwelling; however, that may very well come hereafter, when the present building may be well used for an early forcing house. A handsome curvilinear-roofed viney would embellish the grounds around Mr. Drake's dwelling; and when expense is no object, and very early grapes not sought, this style of building would be particularly appropriate. The other viney above alluded to has many advantages in point of position, being at the end of the garden, and well protected by a hill. It will make a capital forcing house. A large and ornamental cistern is placed directly in front, thereby insuring an ample supply of soft water.

Mr. Bright's grounds embrace about three acres, and are most judiciously laid out. Here are to be seen some of the finest grown nursery specimens that it has been our good fortune to meet with. Selecting naturally vigorous trees, they have been carefully transplanted when young, and their development allowed without check; at the same time, care has been taken to avoid excessive artificial stimulus. The soil seems naturally well adapted to the growth of the hardy evergreens, and skillful planting has so protected the half hardy by those whose character was before known, that all alike look thrifty and vigorous. The system of pruning adopted at this nursery has much to do with the production of the fine specimens. Many labor under the impression that to use the knife on an evergreen is to ruin it; and the recalling of some Balsms of Gilead with some six feet of their lower branches entirely cut off, leaving about four of the top with their grace and beauty for ever gone, forcibly impresses me, that those who have not given the matter some attention had better leave the knife alone. No tree should be pruned unless growing vigorously; I am speaking now, be it remembered, of evergreens, and of pruning with reference to the producing of a fine form. April or May is the proper season for the knife; and with the Norways, if their leader be entirely removed, and a lower shoot tied up for a new leader, the vigor of the tree is thrown into its lower branches, and a beautiful pyramidal form thereby produced. Not only on the Norway, but also on the white pine is

the knife used ; and with what a very happy effect, one has only to visit the Logan nursery to observe. Very beautiful, compact Siberian Arbor Vitæ are also interspersed among the others, with a great variety of the newer and less known kinds. The trees are usually removed in the spring, and with much care, something of a ball being taken with each ; they are then set in their new homes very shallowly, and carefully mulched. They usually receive a little looking after, after leaving the nursery ; and that the time spent attending them is profitably employed, many of the well-kept front gardens of Talhehocken street, Germantown, will attest. Mr. Bright points with just pride to the many well-grown and handsome specimen trees there placed under his directions and superintendence ; and it is certainly much more satisfactory for the future owner of the tree to pay ten dollars for a well-grown, pruned tree, carefully transplanted and guaranteed to grow, than to pay ten cents for the miserable rubbish that one sometimes sees encumbering the grounds of what would otherwise be handsome homes. Not that I mean to say that Mr. Bright charges ten dollars for his trees, for I never bought a tree of him ; but that his trees would be cheaper at high prices than the stunted trash for nothing.

In connection with this subject, I can not help alluding to the impositions practiced by designing nurserymen on the ignorant public ; unfortunately to the many, a tree is a tree, and if it have some branches and no roots, why no matter, it is a tree. I have seen on a cold windy March morning—of all times in the year the most unpropitious for the removal of the evergreen family—cart loads of these so-called trees “ auctioned ” off. Many, it is true, although of some size, brought but the ten cents ; but they were very dear even at that price. Farmers, horticultural novices, and others buy these rootless trees, take them home, and devote as much time to planting as they would to a fine tree, then wonder they don’t grow, why they have no luck with their trees. Many well-intentioned persons are thereby discouraged, and resolve to never again make such a profitless investment, and horticultural progress is thereby much retarded. Now would the advice reach the ears of those for whom it is intended, (but, unfortunately, it won’t,) we would say, go to reliable nurserymen ; pay a fair price ; trees can’t be grown for nothing ; move them late in the spring, after the cold March winds are over ; see the trees removed yourself, and if a few very fine ones only are desired, take up part of a ball with them ; prepare the ground for their reception carefully ; give the holes at least double the circumference that you have seen for a tree ; then, not going to the subsoil, place the tree with the ball slightly elevated above the surface of the ground ; keep the ground around stirred and mulched, during the hot months, and take my word for it, you will not see your tree languish or die. If only a few strong, quick-growing evergreens are wanted, and especially if the soil be poor, select the Austrian or Scotch Pines. Our evergreens are more injured by the raw winds than by the intense cold, but the two varieties of pines above mentioned will defy any weather, and will grow on the most exposed situ-

ations. Everybody knows that the Norway Fir is perfectly hardy, and improves with age; in this respect contrasting very favorably with the Balsam Fir, which unfortunately often looks shabby with age. The European Silver Fir is another whose hardiness is undoubted; it is a slow grower when young, but after becoming established, oftentimes grows into one of the noblest of trees. The Hemlock although succeeding better in moist soils, grows well on the banks of the Hudson. The Red Cedar, although not often offered by the nurseryman, and of very slow growth, is able to stand any winter; it unfortunately browns at the time when we most desire to see it green. In enumerating, the Arbor Vitæ must not be overlooked, and we think by all odds the Siberian has most claims to attention; of the Golden, the less said the better. The Cedar of Lebanon, to those who desire more of a collection, is thought to be the finest evergreen of Europe.

[We have already expressed our approbation of the neatness of Mr. Bright's well-kept nursery. What is the matter with you and the Golden Arbor Vitæ, Doctor?—ED.]

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#### HOW THE ROMANS GRAFTED THE GRAPE VINE.

BY HORTICOLA.

MANY years ago, being disgusted with my inability to decide for myself in regard to the relative worth of certain Greek and Roman classics without having read them, I concluded to follow the example of the great Dutch philologists, such as *Scaliger*, *Hemsterhuis*, *Ruhnken*, and others, in reading through all the Greek and Roman authors, from Homer down to about 500 years after Christ, in a chronological order. As a philologist and professor of classical literature, I was very familiar with a large number of them. I spoke and wrote Latin with the greatest facility, and had made and published Greek and Latin poems. In order to carry out my intention, I gave up reading, except the classics, and so I accomplished my object in the course of three years. The readers of the HORTICULTURIST will not misunderstand me; I do not mean that I *studied* all the classics in so short a time, I only *read every one of them through in the original*. By this I was enabled to judge for myself in the conflicting opinions concerning certain classics. I know now what to think of *Julius Cæsar Scaliger*, (not his son *Joseph*, professor in *Leyden*,) who says in his celebrated book *Poëtica*, that the elegant Virgil was as much superior to the natural Homer as a beautifully dressed lady is superior in appearance to a rustic cattle-maid. I know now what to think of Philip Melanchthon, who pronounces Cicero's book *De Officiis* the best book in existence, after the Bible; and of Henry Stephens, who declares that it is the most tedious and tiresome work ever written. The standard by which a reader judges of a book, is *his individual taste, his general culture, the richness and depth of his mind*; it is true that

Pro capta lectoris habent sua fata libelli.

At the time that I was reading the classics, I was very much interested in the cultivation of exotic plants, especially Cacti, of which I had *then* the largest collection on the European continent. This induced me to make extracts, under certain heads, of every thing on agriculture occurring in the classics, so that I am now able to give a detailed description of the methods pursued by the Romans in grafting the grape vine, directly from the sources. In doing this, I shall not forget that *I do not write for philologists*; I shall, therefore, confine my references to such as I deem absolutely necessary.

The Romans were very fond of rural life and of agriculture; the great and rich among them had country seats, for which they selected the most beautiful spots among the mountains, near the sea-shore or lakes. Their generals, when occupied in warfare far from Italy, had frequently so much interest in rural affairs that they brought home with them valuable plants and trees. Lucullus introduced the cherry tree from Asia Minor into Italy. That they, being eminently practical, should have practiced various methods of propagating plants, is very natural, especially as they had the example of the Greeks before them; it is, however, strange, that they were of opinion that *a scion of any kind would unite with any stock*. Pliny (*Historia Naturalis*, xvii., 15, 5, 26) saw at Tibur Tullia a tree bearing walnuts, olives, grapes, figs, pears, pomegranates, and different kinds of apples. According to Palladius, (xiv.,) walnuts, chestnuts, apples, and pears, were not only grafted on their own stocks, but also on arbutus, sloe, willows, platanus, and the ash. According to Diophanes, (*Geop.*, x., 76,) the walnut is only grafted on arbutus; according to Palladius, (ii. 15,) also on the plum and its own stock. Pliny (xvii., 15, 5, 26,) says that the platanus (*Platanus orientalis*, L.) unites most readily with scions of all kinds of fruit trees; second to it in this respect is only the oak. Diophanes (*Geop.*, x., 76) asserts that apples grown on platanus become red. Columella relates (v., 11) that he planted a fig-tree near an olive-tree. Three years after planting, he cut the head of the fig-tree off, split its stem with a wedge, inserted in the split a twig of the olive-tree, the bark of which he had removed on two sides, and tied it. Three years after he cut the twig of the olive-tree from the mother plant, and it continued growing on the fig-tree. I must confess that I am at a loss to reconcile assertions so often repeated during a series of many years with the well-established fact that unions so unnatural can not be effected.

Still it is time to return to our object in view.

The *best time* for grafting the grape vine extends from the 20th of September to spring, even to June, according to Atticus, (Pliny, xvii., 25.) Mild, calm days during the increasing moon, from the first of March to the first of April, are most favorable for the operation. (See Columella, xi., 2.) Pliny (xvi., 25, and xvii., 30, 6) explains the cause of it by comparing the plants to the increased and intensified vigor of the life of animals in the spring.

The Romans practiced four methods of grafting the grape vine:

1. *Inarching.* Two vines growing near each other were united by wounding a shoot of each, and tying them together till they were united. The other method of inarching, which is performed by heading the stock, splitting it, and inserting a twig of another vine, has been mentioned above, when the experiment of Columella was adduced, who inarched a twig of an olive in a fig tree.

2. *Inserting the scion between the bark and the wood of the stock.* This method was chiefly resorted to where the stock was thick. (See Columella, v., 11.) It was afterwards superseded by the two following.

3. *Cleft grafting.* I prefer putting here the references together to avoid the frequent interruption of the description. They are, Varro, i., 41. Palladius, iii., 17. Pliny, xvii., 24. Columella, vii. Columella, iv., 29.

Three days before grafting, the stock is sawed off and smoothed with a knife. This is done that the sap may flow out. It is then split three fingers deep very carefully, and the split is opened by means of a smooth wedge of bone or iron. The scion ought to be cut three days previous, from that part of the vine which is exposed to the east; it ought to have three buds and the thickness of the little finger. The uppermost part of the vine yields the best scions, for in the middle it has not so much sap. The lower part of the scion is cut in the form of a wedge as long as the split in the stock. The cut ought not to be deeper than to make the pith visible. In inserting it some writers require that it should be done with both hands, but this is superstitious. Some tie the stock in the place to which they wish the split to extend. If the scion is pressed in too tightly, the vine will not bear until very late.

Some surround the place of the junction with a mixture of tar, chalk, sand, and cow dung; others tie around this, moss or sods by means of willow branches or soft tape, to protect the grafts against rain, cold, or wind. In Pliny's time it was thought sufficient to clay the whole over, so that the scion projected about two inches. The clay should be mixed with some chaff.

If possible, the graft should be *inserted near the ground, and the stock as well as the scion should be carefully covered with soil up to the top.* It is advisable to make some cuts in the stock, if there should be danger that the rising sap might damage the scion; it will then flow off.

Columella says (iii., 9) that he resorted to this method in grafting two jugera (Roman acres) with an early variety received from Spain.

4. *Grafting in a bored hole.* (Pliny, xvii., 25. Columella, v., 29.) Through a hole, bored in the stock, a shoot of another vine, growing near it, is put, clayed over, and tied with bark of the elm. If there is no vine growing near, a scion of the vine to be propagated is taken and cut to the length of about two feet. Its lower end is to be fitted to the hole by scraping the bark, inserted, and clayed over. The scion ought to have two buds above the stock.

This method is the most certain; for should the scion not grow in the first spring, it will in the second. The operation is very much facilitated by the in-

roduction of the gallic borer, (*terebra gallica*.) It does not heat the wood; the chips it makes are as fine as powder, while the borer formerly in use produced coarse chips (*scobes*) and left the sides of the hole rough.

[Horticola has here furnished us a valuable and interesting contribution to the history of the grape vine. While reading the classics, we pursued a course similar to that of Horticola, making notes of all allusions to agricultural and horticultural subjects, and in this way accumulated a large amount of interesting matter; but, unfortunately, our note book many years ago was destroyed with others, and we have never ceased to regret the loss. The belief of the early Romans, that all kinds of trees could be grafted into each other, is still shared by numbers of their descendants in Italy at the present day. This subject might be followed up profitably, and we trust Horticola will do it.—Ed.]

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## SPRING HOT-BEDS AND COLD FRAMES.

BY A JERSEY MARKET GARDENER.

SPRING is again at hand, and with it come our preparations for forwarding and forcing to anticipate Nature by a few weeks or months.

I can offer little new in such matters except, perhaps, that, as our operations are conducted with a view to profit, and on a large scale, we flatter ourselves that in some respects our system is simpler and cheaper than that adopted in private practice, competition having the effect of drawing out all contrivances, so as to make our manner of working as profitable as possible.

In the raising of tender plants, such as tomato, egg, melon, or cucumber, there is often a great error committed in starting too early, as they can not be safely planted out in this district until the 20th or 25th of May. The 15th of March is much more preferable for starting the hot-bed than the 15th of February; and if the use of a green-house can be had by sowing in boxes there, there is no necessity for starting the hot-bed until the 10th or 15th of April, when the green-house plants that have been sown a month previous, in the green-house, may be planted in the frame.

Our manner of making hot-beds is different from that in general use in private gardens: whether the wood-work of the frame is stationary or portable, we invariably use a pit for the reception of the prepared hot manure. This pit is from 2 to  $2\frac{1}{2}$  feet deep, 6 feet wide, and of any length required. The advantage of this over having the hot-bed built above the ground is, that it requires less heating material, and, being all under ground, is but little affected by the outside temperature. The manure being duly prepared by two or three turnings, the pit is filled up—packed moderately firm—to within 9 inches of the top of the boards, the sashes put on, and kept close to “draw up” the heat. As soon as the heat is

found to be up in the frame—but not before—four or five inches of dry soil is regularly spread over the surface, in which is plunged a thermometer for a day or two, and when it indicates a temperature of 80 degrees, with a tendency to decline, the seed is sown or the seedlings planted, as the case may be. As the weather becomes warm, and the plants get vigorous, water is freely given, and air in warm, mild days. The best protection from frost at night we find to be straw mats, made long enough to overlap the sash at each end six inches, a mat for a six-foot sash requiring to be something over seven feet long.

For raising our spring plants of cabbage, cauliflower, or lettuce, we use only cold frames; that is, frames on the surface of the ground without any heating material; these we usually start by the first week in March. Have the ground finely pulverized, and sow rather thin. By one month from the time of sowing we have fine, strong, hardy plants for planting in the open ground. Careful attention is necessary in giving abundance of air, and by covering up by straw mats at night so as entirely to exclude frost.

We have practiced this plan for some years past, and find it cheaper, requiring less attention, and producing much better plants than those raised in hot-beds.

[The above, from a gardener who works hot-beds and cold frames by the acre, is worthy of the reader's attention. We have no hesitation in giving a decided preference to hot-beds made below the surface, as being more lasting and economical. Hot-beds for raising plants for the open air are often overdone; they ought to be confined to such tender plants as the tomato, egg plant, etc., and for forcing an early crop of radishes, lettuce, cucumbers, etc.—Ed.]

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### THE CINERARIA.

BY A. VEITCH, NEW HAVEN, CONN.

In the estimation of many the Cineraria holds an important place as a green-house plant; and when the brilliancy and variety of their colors are considered, their fresh and luxuriant appearance, the ease with which they can be obtained and cultivated, this regard seems by no means misplaced. They are not difficult to manage, but, like all other plants, there are modes of treatment which suit them better than others; and, having grown them for many years with tolerable success, a few hints relating to what we consider the best way of doing so, might not be unacceptable to some of the readers of the HORTICULTURIST.

The most common way of propagating them is by sowing the seeds annually; and by doing this in August, the plants will be in good condition for flowering in the green-house from January, if desirable, until May of the succeeding year. The seed may be sown in shallow pans or in pots well drained, placing them in a

cool, sheltered situation, taking care not to saturate the soil in watering, and at the same time never allowing it to become dry. The most suitable soil to use is loam, leaf-mould, and sand, in about equal parts. By adding a little charcoal in a powdered state, the germination of the seeds will be greatly facilitated, and a vigor bestowed upon the plants which otherwise they might not possess. The plants, when sufficiently large to handle, may be potted at once into the smallest sized pots, placing them in a frame or pit, so as to shelter them from rains and shade them from sunshine. In a few days the shade might be removed at all times except during the heat of the day, when the sun shines. It is better to keep them rather close for a week or two in the daytime; should the weather be dry and hot, shading, when necessary, as, by so doing, they will suffer less from exhaustion, than when fully exposed to a dry, hot atmosphere. By removing the lights every night when rain is not apprehended, and sprinkling the plants overhead, at the same time dampening the ground several feet beyond where they stand, they will grow rapidly, and be fit to shift into larger pots in about four weeks, using in this operation loam and rotted manure in about equal parts, the charcoal not made finer than it can readily be done with a hammer, or the back of a spade; and should the loam naturally be fine in the texture, it would be greatly improved by sifting the finest particles out of it before mixing with the other materials. If all goes well, they may be shifted into the pots in which they are intended to flower, about the first of December; and if really fine plants are wanted, these should not be less than nine inches; the compost used the same as last, only not quite so fine, and a little hen manure added, if it can be got.

But although raising the plants from seed every season is almost the only way in which they are propagated, it is evident that by this mode special favorites will be lost, as "Nature," in cases of this kind, "never repeats herself." It may be true that some difficulties stand in the way of preserving them through the summer, but these are by no means insurmountable, and, provided the proper means are adopted, not even difficult.

The plants wished to be preserved, if seedlings, should be cut down before exhausting themselves in flowering, and top dressed with fine mould, taking care to pinch off all shoots afterwards which manifest a disposition to flower. In the case of old varieties, instead of trying to preserve the old plants, it is better to have a set of young ones propagated for this purpose in the fall or early winter. These should be in quart pots; and if not allowed to flower, will be in fine condition for keeping against another year, while altogether larger and finer specimens can be made of them than seedlings. As soon as the season will permit, they should be set out of doors, in a shaded and airy situation, where they may remain until about the first of August, when they should be taken out of the pots and the balls reduced, and put into such sized pots as will permit of their being again shifted before they are transferred to those in which they are intended to flower. Throughout the summer they should never be allowed to get dry, and, as is not

unlikely to happen, thrip, or some other enemy, may take to them as if they were all their own; if so, they can be cleaned by immersing in water containing two ounces of Gishurst Compound to the gallon. As during this season they will be in a state of comparative rest, little attention will be necessary, and no alarm need be felt, should they even look a little unsightly. If the crown can be preserved with even tolerable success, all will be well, as, in the autumn, after being re-potted into fresh mould, they will start and grow with the utmost luxuriance. Such plants as we now speak of, when potted in the fall, may be placed in a frame for a week or two, and kept rather close; but after they have fairly started into growth, they will do better fully exposed, until they are in danger from frosts—so placing them, however, as to be screened from the midday sun.

In the routine of management perfect success very much depends upon the way in which they are watered, and it would not be difficult to prove that the want of it, in many cases, is owing as much to this as any other cause. When they are allowed to become so dry as to wilt, or when the mould in the pots is all the time saturated with water, they are in a fair way of being spoiled. In the one case they will be weak and sickly, and liable to be preyed upon by many enemies; and in the other, as they receive more water than is necessary for their own wants, the leaves will have a blanched appearance, while many of them will suddenly droop and die; the flower stems will grow long in the joints, and the flowers be few and straggling. Too much importance, therefore, can not be placed upon the mechanical condition of the soil in which they are grown. The Cineraria is a soft and rapid-growing plant, with large and extremely hygrometrical roots, clearly indicating their being necessarily possessed of great absorbing power, to suit the requirements of the plant. If, then, the mould with which they are surrounded is close and adhesive, it is easy to perceive they will just be in a condition in which they can not fully develop themselves, and perform those offices so needful in the economy of the plant. Hence arises the rule in practice not to make the mould too fine, but rather rough, and capable of taking in water like a sponge, and giving it out with as much facility. When this is the case, there need be little danger apprehended from too liberally supplying them with water, as the provision made for its escape will be such as to render it impossible for the mould ever to become water-logged. And then, too, the air will readily penetrate the entire mass, which, in addition to other benefits, will lighten the temperature of the soil, and, of course, promote a more vigorous action in the roots—a point of the utmost importance, whether in regard to growing a Cineraria in a pot, or a grape vine without one.

[The Cineraria is an old but too much neglected plant; Mr Veitch has done well in calling attention to it, and furnishing directions for its cultivation. It is in all respects a beautiful and showy flower. Our practice has been to propagate esteemed varieties by cuttings put in charcoal and sand, the cuttings being taken mainly from the base of the plant.—ED.]

## AMERICAN EVERGREEN TREES.

BY C. N. BEMENT.

"**THERE** is a lamentable poverty of evergreens," said Mr. Downing, "in the grounds of many country places in this country. Our plantations are mostly deciduous; and while there are thousands of persons who plant in the country such trashy trees as the Ailanthus, there is not one planter in a hundred but contents himself with a few fir trees as the sole representatives of the grand and rich foliage family of evergreens.

"They forget that, as summer dies, evergreens form the richest back-ground to the kaleidoscope-coloring of the changing autumn leaves; that in winter they rob the chilly frost-king of his sternest terrors; that in spring, they give a southern and verdant character to the landscape in the first sunny day, when not even the earliest poplar or willow has burst its buds.

"More than this—to look at the useful as well as the picturesque, they are the body guards, the grenadiers, the out-works and fortifications, which properly defend the house and grounds from the cold winds and the driving storms that sweep pitilessly over unprotected places in many parts of the country. Well grown belts of evergreens—the pines and firs—have, in their congregated strength, a power of shelter and protection that no inexperienced person can possibly understand, without actual experience and the evidence of his own senses. Many a place, almost uninhabitable from the rude blasts of wind that sweep over it, has been rendered comparatively calm and sheltered; many a garden so exposed that the cultivation of tender trees and plants was almost impossible, has been rendered mild and gentle in its climate by the growth of a close shelter, composed of masses and groups of evergreens."

Plants or trees that retain their verdure through the winter of northern climates are called evergreens, to distinguish them from those that shed their foliage, and remain leafless during our cold seasons. The most common evergreens are those belonging to the pine; spruce and fir may serve as specimens.

## THE PINE FAMILY.

The Pines, Firs, Spruces, Junipers, and Cedars form a very interesting, distinct, and striking natural group. The name evergreen, by which they are commonly known, is liable to the exception that one of this genus found in our climate, the Larch, loses its leaves in winter. But it is so distinguishing a characteristic of the rest, that it is likely to be long retained. This family has claims to our particular attention, from the importance of its products in naval, and especially in civil and domestic architecture, in many of the other arts, and in this country, one of the most rapid growth, attain to a larger size, and rise to a loftier height than any other trees.

*The White Pine* may be selected as the American representative of the pyra-

idal trees, being the most important as well as the most striking in its appearance. It is a northern tree, not extending so far south as the region of the Cypress and Magnolia, and attaining perfection only in the northern part of the continent. In the New England States it contributes more than other species to the beauty of our landscapes, where it is commonly seen in scattered groups, but not often as a solitary standard. We see it in journeys, projecting over eminences that are skirted by old roads, shading the traveller from the sun, and protecting him from the wind. We have sat under its fragrant shade, in our pedestrian tours, when weary with heat and exercise we sought its gift of coolness, and blessed it as one of the benign deities of the forest. We are familiar with it in all pleasant and solitary places, and in our afternoon rambles we have listened to the Green Warbler who selects it for his abode, and who has caught a melancholy tone from the winds that from immemorial time have turned to soft music its long sibilant leaves.

The white pine is a tree that harmonizes with all situations, rude or cultivated, level and abrupt. On the side of the mountain it adds grandeur to the declivity, and gives a look of sweeter tranquillity to the green pastoral meadow. It yields a darker frown to the projecting cliff, and a more awful uncertainty to the mountain-pass or the hollow ravine. Amid desolate scenery it spreads a cheerfulness that attracts nothing from its power over the imagination, while it relieves it of its terrors by presenting a green bulwark to defend us from the elements.

Nothing can be more cheerful in scenery than the occasional groups of pines which have come up spontaneously on the bald hills near our coast, elsewhere a dreary waste of rocks, stunted shrubbery, and prostrate juniper. In the forest the white pine constitutes the very sanctuary of Nature, its tall pillars extending into the clouds, and its broad canopy of foliage mixing with the vapor that descends in the storm.

Such are its picturesque aspects: but in a figurative light it may be regarded as a tree symbolical of benevolence. Under its outspread roof, thousands of otherwise unprotected animals, nesting in the bed of dry leaves which it has spread upon the ground, find shelter and repose. The squirrel subsists upon the kernels obtained from its cones; the rabbit browses upon the spicry foliage, which is prostrated in its conservatory shade; and the fawn reposes on its brown couch of leaves unmolested by the outer tempest. From its green arbors the quails may be roused in midwinter, when they resort thither to find the still sound berries of the Mitchella and the Wintergreen. Nature, indeed, seems to have designed this to protect the animal creation, both in summer and winter, and we are persuaded that she has not conferred upon them a more beneficent gift.

As an object of sight, the white pine is free from some of the defects of the Fir and Spruce, having none of their stiffness of foliage and inflexibility of spray that cause them to resemble artificial objects. It has the symmetry of the fir, joined with a flowing grace that assimilates it to the deciduous trees. With sufficient

amplitude to conceal a look of primness that often arises from sympathy, we observe a certain negligent flowing of its leafy robes that adds to its dignity a grace which is apparent to all. It seems to wear its honors like one who feels no constraint under their burden; and when smitten by tempest, it bids no defiance to the gale, bending to its wrath, but securely resisting its power.

The white pine, often called "Weymoth" pine, has sometimes fallen into disrepute with planters who have set it in poor soil, or where it was overshadowed by other trees. Give it sunlight, abundance of room to spread itself, and a deep moist loam, and it will win a good name from every body. No foreign pine surpasses it. The white pine is hardy, bears transplanting well, and is always green; it is too large for village door-yards; its appropriate place is at the outskirts. It makes a noble park-tree, and no pleasure grounds of any extent should be without it.

*The Yellow Pine.*—The Yellow Pine, by some called Pitch Pine, has neither grace nor elegance to recommend it; though it is allied to the pyramidal trees, it approaches the shape of the round-headed trees. There is a singular ruggedness about it; and when bristling all over with stiff foliage that sometimes covers its branches, down almost to its roots, it can not fail to attract observation. Trees of this species, for the most part too rough and homely to please the eye, are not generally valued as objects in the landscape; but there is a variety in their shape that makes amends for their want of comeliness, and gives them a marked importance. We do not, in general, sufficiently appreciate the value of homely objects among the scenes of Nature, which are, indeed, the ground-work of all charming scenery, and set off to advantage the beauty of more comely things. They prepare us, by increasing our susceptibility, to observe more keenly the force of beauty in other objects. They give rest and relief to the eye, after it has experienced the stimulating effects of beautiful forms and colors, which would soon pall upon the sense; and they are interesting to the imagination by leaving it free to dress the scene with the wreaths of fancy.

It is from these reflections that we have been led to prize a homely tree as possessing a high value by exalting the impressions of beauty which we derive from other trees, and by relieving nature of that monotony which would attend a scene of unexceptionable beauty. This monotony is apparent in almost all dressed grounds of considerable extent. We soon become entirely weary of the overflowing lines of grace and elegance, and the harmonious blending of forms and colors introduced by art. We are soon weary of luxuries; and when we have been strolling on grounds laid out with gaudy flower-beds, the tired eye, when we go out into the fields, rests with serene delight upon rough pastures bounded by stone walls and hills dotted with lichens and covered with boulders.

The homely yellow pine serves this important purpose of relief in the landscape of nature. Trees of this species are abundant in sandy levels in company with the scrub-oaks, and the slender and graceful white birch, "The Lady of the

Woods," as the poet Coleridge called it. From these pines proceed the delightful odors which are wafted to our windows by a mild south wind, not less perceptible in winter than in summer, and which are in a different manner as charming as a beautiful prospect.

All these pines require to be cultivated in large masses. They naturally grow thus, and although, when so growing, they seem to be extremely hardy, they do not thrive when solitary, but are scorched by the sun and stunted by the cold and wind. In masses, especially, when large enough to cover several acres, they not only protect each other, but are the best possible nurses for the tender deciduous trees.

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### THE ADIRONDAC GRAPE.

(See *Frontispiece.*)

WE have been furnished with a drawing of the Adirondac grape, an engraving from which we present as a frontispiece. A specimen of the fruit was sent to us last fall, but it was not in a condition to be tested. We have been promised some fruit next fall, when we shall be able to give an opinion. In the mean time we give a history of the grape furnished by a gentleman conversant with it. It is as follows:

"The want of a grape that would mature in the short northern summer in the open air, has long been experienced by the horticulturists of that section. Many experiments have been made, and years of careful attention devoted to the subject without adequate results, the known varieties suffering from the shortness of the season, and notwithstanding every mode of treatment, failing, in most cases, to mature.

"Among others who had devoted much patient labor to experiments attended with considerable expense, was John W. Bailey, Esq., of Plattsburgh, N. Y., who is well known in the northern section of this State as an ardent follower of the pursuit of horticulture, and the exhibitor of several novelties in the way of fruits, at the northern exhibitions. Mr. Bailey's investigations have at last led to the discovery of a new variety of grape which he feels satisfied is destined to fill the deficiency and have an extended usefulness. The original discovery was wholly accidental. J. G. Witherbee, Esq., of Port Henry, Essex County, N. Y., who in connection with his large iron mining interest in that section, is one of the most successful amateur fruit growers in the Champlain Valley, in adding a piece of new land to his garden, noticed a vine growing wild. The vine was quite large, and Mr. Witherbee, considering it one of the common species, directed that it should be grubbed up to make place for a root crop. A year or two after, a small vine made its appearance near the spot, and as it grew vigorously he gave it a trellis, and trained it in the same manner as he did his Isabellas and other

varieties, since which time it has received equal care in pruning, laying down, and winter covering. It commenced to bear four years ago, ripening previous to the 10th of September, and before the Isabella had commenced coloring, or had even attained its size, and two weeks before the ripening of the Northern Muscadine, and about three weeks before the Delaware.

"The fruit is larger than the Isabella ; in cluster and berry of about equal size, the same color, very compact bunch with prominent shoulders ; the berries are perfectly round and adhere firmly to the receptacle when fully ripe ; it is very sweet and juicy, with a flavor peculiar to itself, with scarcely any perceptible pulp, and with less seeds than most other varieties. Mr. Witherbee brought this grape to the notice of Mr. Bailey as experienced in such matters while he was attending the Essex County Agricultural Fair, at Elizabethtown, in the autumn of 1860. Samples were sent to him for examination. The fair occurred on or about the 26th of September, at which time Hartford Prolific, Northern Muscadine, and Delaware were not ripe, while the season of the Adirondac was passed and the fruit gone, excepting the samples sent. Mr. B. visited the garden of Mr. Witherbee to examine the vine and form a more correct judgment of its character and value. The result of the visit satisfied him that it was a rare acquisition to northern collections. He immediately arranged for the entire control of the variety and the privilege of its introduction. He exhibited the fruit at the Montreal Horticultural and Agricultural Society fair in the autumn of 1861, and was awarded the special silver medal of the society in appreciation of its introduction as the grape best adapted to the latitude of Canada. The original vine was discovered at the eastern slope of an Adirondac peak, perhaps fifty rods from the shore of Lake Champlain. It is a prolific bearer, and undoubtedly the earliest to mature of any variety known. The result of its cultivation in a warmer region is one as yet to be tested, and is looked forward to with interest by those familiar with its advantages. It is supposed that in a more southerly latitude it will supply the great desideratum of a very early grape, maturing at a season when the other out-door varieties are not yet available."

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#### LARGE OR SMALL TREES—WHICH FOR AN ORCHARD ?

BY MYRON B. BENTON.

THERE is probably no subject on which advice has been more uniform in our horticultural journals, than that regarding the size of fruit trees for transplanting into an orchard. The nation which is so proverbially *fast*—whose boys, it is commonly reported, reach tobacco-chewing maturity before the age of ten, and whose girls are reckoned very backward if they have not received several offers of marriage before their teens—must, of course, carry out its principles into every department. Transplant only small fruit trees, is the advice from all quarters. It will pay better in

the end, it is said, than large ones, for they will grow enough faster to be able to bear sooner, and that nothing is gained in the long run by so much hurry, etc.

But, without venturing to say any thing against the practice of our youth chewing tobacco with their *milk-teeth*, I will make bold to advance the opinion, contrary to all this advice from almost every source, that fruit trees (especially standard apples and pears) should not leave the motherly arms of the nursery, until they are several years older than at the time when they are generally placed in the orchard.

Let us see how this matter stands. Little trees, only two or three years old, are scattered over the ground, at the rate of about forty or fifty to the acre; as far apart as they will need to be when they have stood a century. During their first six or eight years in the orchard, for various reasons, they require a great deal of labor and care; very much more than if standing for that time in the nursery. They are a great hinderance to the cultivation of the field. One who has had no experience in the matter could not be made to comprehend the extra labor and annoyance of cultivating a crop among young trees, in plowing, harrowing, driving in with a team, etc. Small trees, also, even with the greatest care, are much more liable to injury from a great variety of causes than large ones; not only from teams and implements used in cultivating, but from the crops on the field; they are so much more easily over-topped and smothered by any thing growing around them. The general care of the trees, too, is much increased; the same degree of culture being obtained only by much more care, as the trees are scattered over so much ground.

Under all these considerations, would it not be below a fair estimate to say, that during the first six or eight years, after the age at which trees are usually placed in the orchard, they would require five-fold more care and labor than if in a nursery, and would not be near as well cultivated? I think it would be advisable for any one wishing to set out an orchard, who can not obtain trees of large size, to take those of the common market size, and place them in a nursery again; but one in which they would have much more room than before. If thus managed, in the right manner, I have no doubt that fruit could be obtained from them sooner than by the common method. A choice piece of land should be selected for the purpose, and the trees placed from four to six feet apart each way; being careful to leave a wide headland all around, for the horse which cultivates them, to turn upon. In such a place they could be well taken care of, with but trifling labor. No one but the owner need enter that little plot, and Pat would be spared many sound scoldings for letting the oxen run over choice trees. After they had attained at least six years' additional growth, would be soon enough to place them in the orchard. All that time the usual routine of farming could go on in the field destined to receive them, unencumbered with little trees; and this every one will know, who has had experience, is no slight matter.

The main objection that will be advanced against such a course is, the extra labor of transplanting large trees. But the fact is, this matter is vastly overrated

by most people who, either from inexperience or mismanagement, have been unsuccessful. I believe that, *all things considered*, the labor of starting an orchard is less, if the trees, when set out, are twenty instead of six feet high. The simple act of transplanting would, of course, be more expensive. Suppose but four could be taken up and set out by two men in a day, it would require them but ten days to fill an orchard of an acre. This extra labor would weigh as nothing against the six or eight years of additional trouble, had they been out of the nursery during that period.

And the risk of transplanting large trees, too, I think is much overrated ; if the operation be rightly managed, I think it can be performed with uniform success. Notwithstanding all that has been written on the subject of transplanting trees, is there not still much room for improvement ? I mean among intelligent men who have eschewed the old method. For a man who should now follow the fashion belonging to the by-gone days of cider-orchards, may as well be given up as an incurable case. There is one deficiency in particular, in the method of many, whose way in the main is right ; and the great trouble is in such cases generally that the operator thinks he is attending to all the scientific details, and doing it "book-fashion." I refer to a lack of care in sufficiently protecting the small roots from drying. Most would think it a work of supererogation to use a watering-pot and blankets in removing a tree a short distance, especially if the day were not sunshiny ; but for myself, I maintain that a watering pot is second only to a spade as an implement in transplanting. The other well-known precautions are of course necessary, but this I consider the most important, but I fear the most frequently neglected of all. The hydropathic system is the only sure remedy, and the watering-pot is the guardian spirit that will carry trees safely through the transplanting process. Some can never be made to comprehend how quickly the minute fibrous roots are deadened by a few moments' exposure to the air ; but let it be borne in mind, that the tree, in a state of Nature, would not, in its whole century or more of existence, have its roots so dry for an instant as they generally become in removing, and it will not seem incredible that they are so little fitted to bear an exposure. Have a watering-pot constantly on hand, and keep the roots dripping wet, from the moment they are first in sight until they are buried again.

In removing large trees, the tap root must be cut off, and it is not necessary to retain the side ones at much distance from the centre. *Success in transplanting depends less on the large amount of roots retained, than on the care with which a few are preserved from injury.* Avoid dryness, and wounding the bark of the roots, with attention to mulching for the first one or two seasons, and large trees may be removed much easier than is generally believed.

About six years ago, I removed a pear tree which had stood for more than thirty years in a field distant from the house. It was only twenty-six feet high, having made but little progress for the length of time ; in fact, the rings of growth were so close

together, that it almost needed a magnifying glass to distinguish them. The labor of transplanting took two men a half-day, including the preparation of the soil to receive it. It has borne annually since, from one to two pecks, except the first two years, when that was prevented by picking off the blossoms; for a tree should never be suffered to bear for two or three years after removing, nor should any attempts be made to graft it in that time. It had been the intention to graft this tree, after it had fully recovered from the shock of transplanting, but it was found to yield a natural fruit, which we scarcely place second to the White Doyenné.

An apple tree considerably larger than that I removed three years ago with success, and the whole labor required two men about three-quarters of a day.

My father set out an apple orchard of two acres about nine years ago. Most of the trees were from a neglected nursery, but were of large size. They have been grafted since; but, notwithstanding all these disadvantages, they have borne considerable fruit for the last few years; and the orchard, when compared with others set out at the same time, appears very much in advance. The ground has been constantly cropped from the first, a great deal of the time with corn; a practice which would have ruined small trees.

I give these merely as instances, to show that the opinions are not mere theory unsupported with practice.

[We like to see a subject looked at from all points of view. The advice so generally given in horticultural journals is based upon certain recognized facts, and we are compelled to say that the advice is sound. We have had no inconsiderable experience in transplanting large trees, with probably as much success as usually attends the operation; yet our experience, as well as widely extended observation, leads us to the conclusion that it is wiser to plant small trees than large ones. We have transplanted trees of large size with what would be called good success; but it has been done under favorable circumstances, and with much labor and expense. The trees have never recovered the ill effects of the removal; small ones planted at the time are now, in fruitfulness and every other particular, in far better condition; and this we take to be the general experience. When a large and valuable tree must be moved to save it, the labor and expense necessary to insure the greatest measure of success should not be spared. Moving trees from one part to another of one's own lands is quite a different thing from planting trees from a nursery; he who should undertake to plant trees from a nursery of the size and age referred to by Mr. Benton, would lose not less than eighty per cent. of them. Then, again, the quantity of fruit he gets from his large transplanted Pear tree is no encouragement to plant large trees. It is true that we are a fast people; in some things too fast; but if, with generous treatment, a Pear tree eight or ten years from the bud, will yield us three pecks or more of Pears, why should we wait twenty or thirty years for them? Transplanting is an unnatural and violent process. In France, with a climate infinitely more favorable than ours for such an operation, experiments in transplanting large trees, skilfully conducted, have for some years past been made, and they have recently been reported as failures. This, we think, must be accepted as the general rule; like all other general rules, it will now and then have its exceptions. We think the horticultural journals are right in not recommending the planting of large trees.—Ed.]

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."



**OUR ADVERTISING SHEET.**—We take peculiar pleasure in calling attention to our advertising columns for the present month, where will be found whatever may be required in the operations of the coming spring in the orchard, the vineyard, or the garden, or is calculated to add to the comforts and conveniences of rural life. We venture to say, that those whose energy and enterprise bring them before the public in these war times, are prepared to execute all their orders in a prompt and business-like manner. It may be somewhat remarkable, but it is a gratifying fact, that during the late depression in all kinds of business, the subscription list of the Horticulturist has steadily and largely increased; and our advertising patronage for this month quite equals that of any preceding month. The reader should make a careful examination of our advertising columns, not only as a matter of interest and information, but as suggestive of business revival consequent upon the sinking fortunes of the great rebellion.

**CLARK'S KNICKERBOCKER.**—The friends of Mr. Clark will be rejoiced to learn that he is about to issue a Monthly under the name of *Clark's Knickerbocker*. It will, of course, be a counterpart of the real "Old Knick;" in fact, the "Old Knick" itself, with all its original raciness and delightful humor. The thousands who have heretofore been gladdened with the monthly visits of "Old Knick," will joyfully welcome his visits again. Spread the "Table," Mr. Clark, and let the good things "cirkelate."

**MOTTIER'S WINE.**—We have lately received a sample of Mr. Mottier's wine of a new vintage, made on the lees. It is in all respects a first class wine of undoubted purity, and stands at the head of all wines that we have yet received. There is no deception about it. Our standard is the *pure, unadulterated juice of the grape*, and wine makers *must* come up to that.

**PRAIRIE FLOWERS.**—We have often wondered why some of our enterprising seedsmen did not collect and offer for sale the seed of some of our beautiful prairie flowers. This, at last, has been done by Mr. Heffron of Utica, and we shall ex-

pect, in consequence, to see some pretty additions to our flower borders. This field has been left, heretofore, almost entirely to European collectors.

**ROOM PLANTS.**—We had expected to give an article on Room Plants from Mr. Bridgeman, but he loaned his manuscript, and lost it. We shall hereafter give more attention to this subject, a sad bereavement having brought it home to us with peculiar force. It was a mother who, while we were yet a child, first developed and directed our love of plants. The hours of enjoyment we have since passed among them, we can never forget. Whatever of good we may have done in the world, whatever influence we may have exercised in developing a love of the beautiful in nature, with all its rich stores, we owe it all, and more, to a mother's love. That mother, since our last issue, after much patient suffering, has passed peacefully to the better world. The flowers that she taught us to love, the flowers that she so much loved while living, it shall be ours to plant on her grave, that their sweetness may mingle with the sweetness of the memory that she has left behind her. Peace to thee, Mother.

**BROOKLYN HORTICULTURAL SOCIETY.**—We trust the members and friends of this Society will bear in mind that there is to be a spring exhibition at the Academy of Music, and prepare for it accordingly.

**NOTICE TO SUBSCRIBERS.**—The large addition of new subscribers, and the prompt manner in which most of our old ones have renewed for 1862, have been very gratifying. There are still some, however, who have not yet renewed; we send them the present number, with the request that they will please inform us whether they wish to continue.

**THE RIGHT TALK.**—A clerical friend, in renewing his subscription, uses the following language. We commend it to the consideration of all his brethren, as there is much truth in it.

"I look upon the subject of Horticulture as of first rate importance to every man, but inexpressibly so to ministers as a source of relaxation and usefulness. I have said much to my brethren on the subject, but they do not appreciate it. I am called an enthusiast, but mind you, they like to call with their ladies to *get* flowers. But there is a good time coming, when men will know and feel that it is *God-like* to beautify the spot they call home, and when all do this our land will be 'beautiful and bright with freedom's holy light.' May it come soon."

**THE PENNSYLVANIA HORTICULTURAL SOCIETY.**—We have received the "Programme for the year 1862." We have in this a list of officers and committees for 1862, the regulations of the Library, order of meetings and monthly topics for discussion, and a schedule of premiums. We are very glad to see that the Society has adopted the feature of monthly conversational meetings in connection with monthly exhibitions. This will greatly increase the Society's usefulness, besides diffusing a spirit of life and activity among all its members. In a notice at the beginning it is stated that the Society "is the oldest Horticultural Society

in the United States, having been instituted in 1827," and incorporated in 1831. The statement is not correct as to the Pennsylvania Society being the oldest. The New York Horticultural Society was instituted in 1818, and incorporated in 1822, and it therefore has a prior claim of many years. The Pennsylvania Society has marked out a large field of usefulness, and we hope it may occupy it profitably to itself and the good cause.

## CATALOGUES, ETC., RECEIVED.

*C. B. Murray*, Foster's Crossings, Warren Co., Ohio.—The Nansemond Sweet Potato: Directions for Propagation, Culture, and Preservation; also, Experience of Growers in different parts of the Country.—A useful little compend; but at Mr. Murray's prices, it would be cheaper to buy the plants than to propagate them.

*Henry A. Dreer*, Seedsman and Florist, Philadelphia.—Garden Calendar for 1862, designed to furnish brief Directions for the Cultivation and Management of the Esculent, Flower, and Fruit Garden, containing select Lists of Seeds, Trees, and Plants. Illustrated with Wood-cuts.

*Barnes & Washburn*, Harrison Square, Mass.—Catalogue of a choice Collection of Flower and Vegetable Seeds, embracing many new and rare varieties, &c.

*H. B. Lum*, Sandusky, Ohio.—Catalogue of rare and beautiful Flower Seeds.

*E. Ware Sylvester*, Lyons, N. Y.—The Oporto Grape (circular).

*Isaac Jackson & Co.*, successors to T. M. Harvey, Harmony Grove Nurseries, West Grove, Chester Co., Penn.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubbery, Roses, &c.

*Haines & Pell*, successors to Tredwell & Pell, No. 27 Cortlandt St., New York.—Catalogue of Agricultural and Horticultural Implements, Machinery, Fertilizers, &c.—This new firm had existed scarcely three weeks when their establishment was entirely destroyed at the Fulton St. fire. We offer them our sympathy, and wish them abundant success in their new store.

*A. S. Fuller*, Horticulturist, Brooklyn, N. Y.—Spring Catalogue of Trees, Plants, and Shrubs, including wholesale and retail prices of Grape Vines. Catalogues sent free to all applicants.

*Ellwanger & Barry*, Mount Hope Nurseries, Rochester, N. Y.—Descriptive Catalogue of hardy Ornamental Trees, Shrubs, Roses, &c.

*J. M. Thorburn & Co.*, New-York.—Descriptive Catalogue for 1862 of Vegetable and Agricultural Seeds, Garden, Field, and Fruit Seeds, &c., embracing every standard and improved variety.

*Isaac Pullen*, Hightstown, Mercer Co., N. J.—Catalogue for Fall of 1861 and Spring of 1862 of Fruit and Ornamental Trees, Vines, &c.

*Ellwanger & Barry*, Mount Hope Nurseries, Rochester, N. Y.—Descriptive Catalogue of Fruits.

*B. K. Bliss*, Springfield, Mass.—Descriptive Catalogue of a choice Collection of

Vegetable, Agricultural, and Flower Seeds, &c.; to which is added, a descriptive list of small Fruits, viz., Grapes, Strawberries, Gooseberries, Raspberries, Currants, &c.

*Thomas Morgan*, Lyons Farms, between Elizabeth and Newark, N. J.—List of Geraniums, Fuchsias, Pinks, Bulbs, &c. 1862.

*Alfred Bridgeman*, 876 Broadway, New York.—Catalogue of Vegetable, Flower, and Field Seeds, with Directions for their cultivation.

*Andrew Bridgeman*, 878 Broadway, New York.—Descriptive Catalogue of French Hybrid Gladiolus and other Summer and Autumn blooming Bulbs.—There are some 200 varieties of this splendid flower, very fully described.

*Parsons & Co.*, Flushing, L. I.—Catalogue of Fruit and Ornamental Trees, Shrubbery, &c. Also, Exotic Plants.

*J. Knox*, Box No. 155, Pittsburgh, Penn.—Price List of small Fruits, &c., for the Spring of 1862, Strawberries, Raspberries, Blackberries, Grapes, &c.

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## Correspondence.

EDITOR OF THE HORTICULTURIST:—Dr. Houghton, in his communication in the January number of the HORTICULTURIST, says he is well assured that his position in respect to the value of native grapes is sound and just. He thinks there is no native grape worthy of cultivation in vineyard form; that native wine is wretched stuff; the grapes not fit to eat, and do not pay to raise for market.

I do not intend to make any comments at this time, further than to say that I think it remarkable that the Doctor made this discovery at this late day, considering the existence of fortunes made from native vineyards, (the taxes on a single one of which are over \$30,000 yearly,) and results equally splendid in my own vicinity.

Now, as he calls for facts and statistics, I will refer him to a few gentlemen 70 miles north of New York, who will testify to the following, if necessary.

H. W. Murdfeldt, Esq., of Newburgh, Orange County, N. Y., has a vineyard, the vines of which were planted at different periods. First lot planted, 100 vines, have borne four crops; second lot planted, 150 vines, have borne one crop. These 250 vines are all that I will speak of in connection with this vineyard, as the others are younger. These vines, it was thought, did not occupy one half acre, but to make the calculation safe, it was considered as half an acre. Product the past year, 3700 lbs.; brought 14 cents per lb.; variety, Catawba. When these vines get old enough to bear a full crop, they will produce as many more pounds. The ground on which the first vines were planted was not trenched. He now trenches as he plants. Mr. Murdfelt says they have ripened fully each year.

Mr. Charles Wooley, of New Paltz Landing, Ulster County, N. Y., last year produced from three-fourths of an acre four tons of the most beautiful grapes I ever saw. I think I hazard nothing in saying that his clusters averaged half a pound each. They brought ten cents per pound. Varieties, Catawba and Isabella. The earth was not trenched. Mr. Wooley never fails to ripen his grapes.

S. B. Trowbridge, Esq., a retired gentleman of Poughkeepsie, who cultivates the vine more particularly for the pleasure it affords, produced last year at the rate of \$1,024 per acre. This gentleman gave me a very interesting statement of his mode of cultivation, which you may have, if useful.

Mr. Bruyn, of Esopus, Ulster County, (a near neighbor of R. L. Pell, Esq.,) and Isaac Meritt, Esq., of Hart's Village, Dutchess County, both last year produced results equal to any of the above; so I am informed by their neighbors, but not having seen them and their grounds, can not speak as of facts.

Messrs. J. Heaton and W. Kniffin, my neighbors, have equalled any case I have named. Mr. Heaton's vineyard covers several acres.

No one acre of the above cost over \$200—cost of vines, preparation, and planting. I think any person can arrive at a conclusion between these figures and the Doctor's declaration that our native grapes are worthless.

I think the Delaware and Concord will far exceed the Isabella and Catawba in value for vineyard purposes.

I think there will be no disagreement with the Doctor in relation to his having eaten those "sour grapes," for it is apparent that his "teeth are on edge."

A. J. CAYWOOD.

[The facts presented by Mr. Caywood have a direct bearing on the subject, and could be greatly multiplied. We think we may venture to say for the Doctor, that he is open to conviction. We have an article from Mr. Murdfeldt, detailing his success in grape culture. Will you please send us the account Mr. Trowbridge gave you? We shall be very glad to have it.—ED.]

CATAWISSA GRAPES.—MESSRS. EDITORS:—I was greatly surprised, when overlooking the proceedings of the Fruit Growers' Society of Western New York, to find the Hartford Prolific, Rebecca, Concord, Perkins, Diana, and some other Grapes, extolled as well-suited to their climate, and the Catawissa, a variety possessing merits and advantages for northern culture beyond every one I have named, completely ignored. I am much surprised to find Mr. Barry and others who took part in the discussions, so very far behind the age. The Catawissa is a vine of exceeding hardihood, and of great vigor, producing most abundant crops. The berries are large, oval, the same color as the Isabella; rather sweeter, of very good flavor, and free from all the mustiness of the Hartford Prolific. The clusters are similar in size to those of the Isabella, and the berries hang per-

manently, and never drop like the Hartford Prolific, Northern Muscadine, and some others. But its most important advantage is its precocity. It is the earliest ripening good table and market Grape we yet have, ripening at the same time as the Canby's August, and fully two weeks or more before the Isabella is eatable. There are several other early, hardy, and very estimable Grapes which our Western friends appear to not be cognizant of, to which I will refer in a future article.

Yours most respectfully,

*Flushing, N. Y.*

W. R. PRINCE.

[The Catawissa mentioned by Mr. Prince is identical with the Creveling, which we figured and described in November, 1860. Bloom is another synonym for the same Grape. It is a hardy, early Grape, not yet valued and known as it should be.—ED.]

MESSRS. MEAD AND WOODWARD:—Will you oblige a subscriber by giving your opinion as to the best time to prune Pear trees which were transplanted last October, and at the time not pruned?

*Brooklyn, Feb. 1862.*

C. P. S.

[The proper time to prune your transplanted Pear trees will be in the month of March or not later than April. Do not neglect it till the buds have started. Cut always to a good sound bud, and be careful not to bruise it.—ED.]

HORTICULTURAL SOCIETIES.—Upon re-reading my article in January No., I feel I must plead guilty to “Anthophilus’s” charge of inconsistency. See how it was—it is an illustration of the difficulty of serving two masters.

I did labor under the delusion that the Gardeners and Horticultural Societies were one; and figuring to please both, got me into the scrape.

If the gardeners are the impracticable set Anthophilus makes them out to be, (and I am really beginning to believe he is about right,) why then, I say, let them go to pot, and the societies on their own hook.

*February 17th, 1862.*

Yours, BROOKLYN.

[No, do not let them go there, (only the “cabbage heads,”) but let us strive for a more perfect “union.”—ED.]

ANOTHER OF ROGERS’S HYBRID GRAPES—No. 1.—EDITORS OF THE HORTICULTURIST:—In the present number of the HORTICULTURIST, you notice No. 15, of Rogers’s Hybrid Grapes.

This season I fruited No. 1, and am highly pleased with it, being the first season it bore; the clusters, of course, were not so large as we may expect them. Bunch medium, berry a trifle above medium, oval, much like Isabellas in color, texture and flavor resembling Diana; vine free from mildew, and quite hardy. Some twenty varieties of these hybrids on my grounds (and of which I hope to be able to send you fruit of next fall) seem to be perfectly hardy and free from dis-

ease. With me Diana has behaved herself by no means well. Concord and Delaware are *some*, however.

Is it a common thing for black grapes to produce white ones from seed? Out of five Concord seedlings, old enough to bear, two bore fruit last fall, both white, one of them a grape of merit, if I am a judge, at least so far as flavor is concerned. But it must combine all the good qualities if it ever leaves my grounds as a grape for the public.

Lebanon, January 9th, 1862.

Yours truly, S. M.

[We are obliged to you for this additional knowledge of Rogers's Hybrids. We are glad to find that you agree with us in regard to the Delaware and Concord. The value of the Delaware can not at present be overrated. It is quite common, as we have remarked on former occasions, for black grapes to produce white or green seedlings. Seedlings from the Isabella are often green. We should be glad to see your seedling, but like your determination not to let it go out till it is found to "combine all the good qualities." That is the only kind of seedling that should now come before the public.—Ed.]

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HORTICULTURAL SOCIETIES, ETC.

BROOKLYN HORTICULTURAL SOCIETY.—The regular Conversational Meeting was held January 28th. The President being ill, Mr. Barnes took the chair.

Mrs. Humphries exhibited a basket of cut flowers. Mr. Brophy exhibited cut flowers. Mr. Messenberg exhibited a basket of cut flowers. A lady asked where she could purchase a plant of *Halimodendron*, or *Salt Tree*, but the members present could not inform her. Another asked, "Can aquatic and marsh plants be grown successfully in rooms? Must they be in separate pots, or can they be grown together in an aquarium? Must they be planted in soil, or will placing the roots in water be sufficient?"

Mr. Bridgeman replied that they could be grown in an aquarium or a tank; fish would be an advantage. Almost any kind would furnish water plants of some description. They need not be in separate pots; put some muck or soil on the bottom of the tank, in which set the plants, and keep them down with shells. Many kinds of aquatic plants will grow with their roots free from soil, drawing their nourishment from the water alone. The natural condition of marsh plants is to root in soil. Had found it necessary to keep the water in motion. A few can be easily grown, but to flower many is quite an undertaking.

A member handed in the following: "Information is desired regarding the *Tree Dahlia*, described in Loudon's Arboretum (vol. v., p. 1073) as being arborescent, and growing to the height of *forty feet*. A native of Mexico. It was introduced into the Liverpool Botanic Gardens in 1835; also the Edinburgh Botanic Gardens, and the Horticultural Gardens at Manchester."

Mr. Bridgeman said he was unable to answer by that name. Mr. Brophy moved that it be referred to Mr. Bridgeman to investigate. Carried.

The next question was whether the Mistletoe (so common in Europe) is found any where in this country.

Mr. Barnard had seen it growing on the Ohio.

Mr. Fuller said it was not the same as that which grows in Europe.

Mr. Bridgeman had sent many things to England, Scotland, and Ireland, and they were surprised at them.

A lady wanted to know why Fuchsias do not ripen their seeds in this country, and if there is any plan to force them to do so.

Mr. Bridgeman said there was no difficulty in ripening the seed so far as was necessary to make them grow. A Fuchsia, as long as it is left growing, will circulate its juices like an evergreen. Had ripened several varieties, mostly of the dark kinds, but did not remember their names. Did not know whether it would seed out of doors.

The same lady sent up the question, "Would any advantage be gained to plants in pots if the earth should be lightly covered with powdered charcoal? What would be the effect of a mixture of ox blood and cream of tartar upon the roots of plants?"

Mr. Bridgeman said, that as a fertilizer it would be too strong for a plant as tender as the Fuchsia.

The next question was, "Is there any truth in the statement that an onion or garlic planted at the root of a rose bush increases its odor?"

Mr. Fuller wanted the question referred to mythology.

Mr. Bridgeman said that Fuchsias do better shaded. He grew them last year in the house till the Gladiolus began to flower, then moved them out-side, and they flowered till frost. With proper shade, shelter, and soil, Fuchsias could be grown much larger than is usually done. Began to propagate the first lot this month, but the best plants will be those started next month.

It was asked, what is the best soil?

Mr. Bridgeman replied that he used principally fresh virgin loam, decomposed manure, and wood ashes; watered with a weak solution of guano. The best soil comes from old pastures.

In reference to the onion or garlic, Mr. Brophy advised to try what the effect would be. Nature knows how to take and reject what is unfit. Had occasion to visit the garden of a florist in New York who had a healthy show of roses and free from insects, by planting tobacco leaves at the foot of the roses, and it may be possible that something may be accomplished by planting at the roots.

Mr. Bridgeman doubted whether plants would be affected by any application of this kind. Had tried aloes by syringing, and if this would not do, would not think much of the other. Worms in New York eat the Maple and Horse Chestnut clean of leaves, and are now eating the Ailanthus. Had used aloes, tobacco, and whale oil soap with only partial success; had tried them on the leaves and in the soil.

Mr. Brophy said that a writer had stated that the Hydrangea would change color by the introduction of minerals in the soil. As to the ravages of insects, it is a law of nature that little insects must live as well as big ones. There are more species of insects living and afloat than of all other species together.

Mr. Bridgeman said that the soil would frequently vary the color and nature of the plant. Some soils without the addition of iron would make the Hydrangea blue. He had noticed the same in the Gladiolus.

The subject of the evening, the Cultivation of Plants in Rooms, was then taken up. [Mr. Bridgeman occupied the remainder of the evening with an essay on the subject, which we shall give as a separate article. We should have done so in the present number if Mr. Bridgeman had not unfortunately lost the manuscript.]

Mr. Brophy called attention to an insect on a leaf, something like a mud turtle in its outward texture.

Mr. Bridgeman said that nothing was more pleasing and gratifying than to arrange flowers and combine colors: green leaves, variegated leaves, and fern leaves are a great addition to a bouquet. He liked the Philadelphia style of bouquets better than those of New York and Brooklyn, but they did not suit our people. Had bought a bouquet at the hotel which was beautiful: a base was formed, and every flower set up so as to show all of it. The florist is not so much to blame as his customers; if he changes his style he must change his customers. They should learn to state their tastes: there are as many ways of making bouquets as there are tastes. Adjourned.

The Society met again February 11th, the President in the chair.

On the table were Ferneries and cut flowers from Mr. Bridgeman, seedling Carnations from Daillieuze and Zeller, a Wardian case, basket of flowers, and Cinerarias from Mrs. Humphries, metallic flower pots, forest leaves, and works on rural subjects from Mr. Miller, and a basket of flowers from Mr. Messenberg.

The following questions were asked: 1. "When is the best time to remove wild plants from the woods, spring, summer, or autumn?"

Mr. Bridgeman replied, in spring or autumn; with care, in summer; spring is best, as they have the whole summer to get established. If moved in the fall, the roots are likely to be thrown out by frost.

2. "Can the Pomegranate be grown here as the Fig is, by being covered during the winter?"

Mr. Bridgeman thought it could not.

3. "Is this the proper time to prune choice fruit trees and shrubs, or wait till the buds have started?"

Mr. Bridgeman said fruit trees might be pruned this month; it was not well to leave them till the buds started.

4. "Is it too soon to wash the body of the trees with a solution to kill the insects in an egg state?"

Mr. Bridgeman preferred to leave it till later.

Mr. Quin preferred to do it in April to kill the aphis.

5. "Can the Asimina or North American Papaw be obtained from any of the gardeners?"

Mr. Bridgeman was not aware of its being grown.

6. "Is the Soap Plant (which I believe is a native of California) to be obtained here? and if so, please indicate directions for its cultivation."

Mr. Bridgeman remarked, that this question exposed some of the difficulties in the use of common names. He did not know what was meant by Soap Plant.

Mr. Fuller said the Soap Plant is grown here; the California kind, called saponaria, is hardy with Mr. Prince.

[The plant referred to in the question is undoubtedly the Phalangium pomaridianum, used for washing in California. It can be obtained here.—Ed.]

7. "Can the double violet be grown in the open ground?"

Mr. Bridgeman said it would not stand our winters; they should be grown in cold frames. They bloom in England.

8. "Is the Scotch Heather to be found growing wild in this country, and can it be obtained of any of the gardeners?"

An article was read from the HORTICULTURIST, stating that it had been found growing wild in Massachusetts.

Mr. Fuller did not doubt its being found, but did not think this proved that it was indigenous.

9. (By a lady.) "Can the garden Ranunculus be successfully grown in this country? state the mode of culture. Please to name the most successful grower."

Mr. Bridgeman said the Ranunculus was uncertain here; had had them bloom splendidly sometimes; at others, they were killed in the winter. They may be grown in any garden soil; they improve every year. Few will take the trouble to keep them over on account of the uncertainty of doing well.

Mr. Degrauw had set them out several years, but failed; others had succeeded.

Mr. Fuller thought it must be in the soil. In Wisconsin he had no trouble in making them bloom.

Mr. Bridgeman said, the soil in which they are grown in Holland is a fibrous, sandy loam, black as ink.

10. A lady wished to know if the Cinnamon, Coffee, and Camphor trees can be grown in a green-house with the usual culture of other plants.

Mr. Bridgeman said they could. A Coffee tree was now in fruit in the green-house of R. L. Stuart. Cinnamon and Camphor could be grown; he had seen a Coffee tree in fruit within a few days.

More questions were sent in by a lady. 11. "Is any thing known here of a new Zinnia called Zinnia aurea, which is said to be a native of Mexico?"

Mr. Bridgeman said they had it in England at the gardens of the Royal Horticultural Society. He had not seen it.

12. "Where can I obtain the new Roses which I saw noticed in the Eagle a few months since? viz.: Empereur de Maroc, Victor Verdier, Due de Magenta, and Comtesse de Chabriant."

Mr. Zeller said the varieties were quite new, and thought they could not be obtained in quantity. He had them in course of propagation.

13. "Are there any variegated hardy evergreens?"

Mr. Bridgeman said there were a few, and many more that required protection; the variegated Holly is hardy.

14. "Which is the best variety of Rose to be grown as a weeper, and which as a pyramid?"

There was no answer to this question.

15. "The Cephalotus follicularis is described as growing in European gardens: can it be obtained here, and will it grow out of doors without protection?"

No one answered.

16. "Will you please explain the cause of my Brugmansia buds falling off? The plant is young, about three feet high, leaves fresh and healthy looking; 18 to 20 buds will appear, grow one or two inches, and fall off."

Mr. Bridgeman said, in regard to Brugmansia, it depends on the treatments they receive. We plant in the open ground. There are many causes, such as the change from open atmosphere to house, etc.

17. "Also, what would cause Camellia buds to show dark brown spots, which spread over the buds, and they fall off?"

Mr. Bridgeman said that Camellias will set more buds than they can mature; it is better to thin out. If taken from the open air in autumn, into strong heat, or without ventilation, they will drop their buds. It is a common thing to have the buds drop off; it is almost impossible to prevent it where a furnace or gas is used. If water is evaporated, it will to some extent counteract the effects of a furnace. Mr. Bridgeman then made some remarks in regard to the subjects exhibited, and explained the manner of treating the ferneries exhibited by himself.

The subject of the evening, Waltonian Cases, was then called up, and inquiries made for Mr. Mead, who had suggested the subject.

[We will simply say here that we were not present because of the death of a dear and beloved mother.—Ed.]

A desultory conversation ensued. Mr. Fuller thought a case for 1,000 cuttings, that would root them in from four to six weeks, could be made for \$5, and furnished with bottom heat at 75 cents. He would try to have one shown here.

Mr. Cavanach thought they attained great perfection in the Wardian case in Belgium; considered them better adapted to Lycopodiums and Caladiums; did not think that common house plants would do, as they grow too fast.

Mr. Bridgeman did not see any objection to growing any plants in the Wardian cases, unless it were extremes; one plant may require much moisture and another less. Unless the case be large, there may not be material enough to perfect a large plant. The plants should be of the same class, or require the same conditions, to do well together under a case. It is not necessary to make them air tight.

The subject of "Spring Pruning" was selected for the next meeting, and the Society adjourned.

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#### FRUIT-GROWERS' SOCIETY OF WESTERN NEW YORK.

(Continued from page 104.)

Mr. HOOKER said the Pomme Royal is of poor appearance, greenish white, often speckled. Twenty Ounce is one of the best market apples, excellent for cooking, hangs well on the tree, and is a good bearer.

Mr. MOODY believed the Duchesse of Oldenburgh to be one of the best autumn apples, and a very early bearer, often bearing in the nursery; one of the tenderest table apples. Fall Pippin, after the Gravenstein, is the next best cooking apple.

Mr. FISH said it is generally admitted that the Fall Pippin is of good quality, but he could never get many of them.

Mr. HOLMES, of Syracuse, had not heard the Hawley mentioned, and would like to get the opinion of members as to its quality.

Dr. SYLVESTER said the Hawley is one of the best fall apples, but is not considered very productive.

Mr. BEADLE had the Hawley in cultivation some years, but of late it is not only water-cored, but water-soaked, and about worthless. It stands in a rather low place in the orchard, and this may be the cause of the trouble.

Mr. HOAG found it the same at Lockport.

Mr. HERRINGTON had the same difficulty with it in Macedon on high ground.

Mr. HOOKER could not get along without the Porter for family use.

Mr. ELLWANGER said, as it seems to be understood that the list is to be increased to six autumn varieties, he wished to add the St. Lawrence. He also spoke well of the Porter.

Mr. COREY, of Penfield, considered Maiden's Blush a very fine apple.

Mr. ANTHONY said Maiden's Blush is always fair, productive, and excellent.

Mr. BARRY said it is remarkable to notice the changes in the character of apples. Only twelve years ago the Hawley was extremely popular, and it was an excellent apple. Now it is subject to the defect noticed by several gentlemen, and is about discarded.

Mr. HOOKER found the St. Lawrence a very perishable, unreliable fruit. The crop generally is poor and wormy.

Mr. BEADLE thought the St. Lawrence had got too far south. In Canada, the further north it is grown, the higher-colored, the finer, and the more perfect the fruit. It is always large, fine, and the tree productive.

Mr. LAY, of Greece, found it to ripen unevenly.

Mr. SMITH said this is the case in Syracuse, but considers that this variableness in ripening makes it the more valuable for family use.

#### BEST TWELVE WINTER APPLES.

IV.—*The best 12 winter, to embrace 2 for stock, 2 for baking, 2 for cooking, and 6 for the table.*

Mr. ELLWANGER thought the Fameuse the best early winter apple for the table.

Mr. HOOKER recommended for baking the Tolman Sweet and Ladies' Sweet—a very valuable fall sweet apple.

Mr. BARRY said, for market, he was prepared to recommend the Rhode Island Greening and Baldwin.

Mr. FISH recommended, for late keepers, the Roxbury Russet and Golden Russet.

Mr. BEADLE recommended the Pomme Grise as a fine late keeper, to June, and asked information respecting the Pomme d'Or, a good apple, somewhat resembling the Pomme Grise.

Mr. FISH said the Pomme d'Or is a small excellent russet apple. It sold last year at \$10 per barrel in Canada.

H. N. LANGWORTHY said he first saw this apple on the ridge-road, near this city, in the orchard of Mr. SHERMAN. Its fine flavor and aroma is delightful. It is the prince of russets. It is more oblong than the Pomme Grise—sometimes quite oblong. The tree is upright in its growth, and a good bearer. For a long time could not ascertain its name, but by searching the French pomological works became satisfied that it was the Pomme d'Or of the French, and it has been called by that name.

Mr. BEADLE said Norton's Melon is exceedingly valuable in Canada.

Mr. SMITH called attention to Peck's Pleasant, as it had not been mentioned. It is a very valuable early winter apple, and a pretty good bearer. Had none this winter. All the winter apples they have in Syracuse this season are the Golden Russet and Northern Spy. These two are the hardiest trees we have.

Mr. BARRY said the Golden Russet, as understood here, is the one with small specks on the bark. The American Golden Russet, so much grown in New Jersey and southward, will not do here. Our Golden Russet is not described in the books.

Mr. SMITH spoke of the Wagener as an early winter apple, of which the tree bears very young; is a good bearer, healthy, and most desirable.

Mr. WRIGHT inquired of the value of Cooper's Market.

Mr. HOOKER said it is grown by some of his neighbors, and is a good bearer and keeps until April. It is a showy fruit, but not of first quality. The Yellow Bellflower is good, but sometimes specked.

Mr. SHARP, of Lockport, inquired why some one did not speak of the Swaar.

Mr. BEADLE found it tender in Canada. It winter-kills badly.

Mr. SMITH said it has the same defect as the Fall Pippin—never bears a crop.

Mr. LAY said the Swaar had borne well with him.

Mr. SYLVESTER recommended Newtown Pippin, wherever it can be grown without specks.

Mr. ELLWANGER said the Jonathan is an excellent dessert apple, and high colored. The Canada Reinette is also good.

Mr. COVEY considered the Bailey Sweet equal to any sweet apple we have, through January and February.

Mr. HOAG said the Bailey Sweet is a good apple, but it will not keep.

The PRESIDENT said the Bailey Sweet, on the warm, sandy land about Moscow, is a late fall apple, but on heavy land, and in colder situations, it is a winter fruit.

Mr. BEADLE noticed the Yellow Bellflower was recommended by some one. With him it is a shy bearer, and has a very large core. He thought little of the variety.

W. P. TOWNSEND, of Lockport, said the Yellow Bellflower needs severe pruning, and if the tree is in good condition, the fruit is good.

Several gentlemen stated that the Bellflower is tender about handling.

Mr. MOODY thought this a little too far north for the Yellow Bellflower, but with a little care it will succeed well. For early winter the Wagener is one of the best. He thought well of Peck's Pleasant.

Mr. BARRY said the Yellow Bellflower was really a Southern apple. In the North it is doubtless degenerating, though it had never done well here, except in favored localities, but in the South it is as fine as ever.

Mr. GLEN recommended the Belmont as an early winter apple, both for the table and cooking.

Mr. BARRY believed it to be a seedling of the Yellow Bellflower, and a good apple, very popular in Northern Ohio.

Mr. CUMMINGS recommended the Northern Spy as a late winter apple, exceedingly valuable for a Northern climate. Bears well when it commences, but is not an early bearer.

Mr. HOOKER inquired about the Spitzenburg—an old favorite.

Mr. MOODY said it is good in Niagara county.

Mr. BARRY said it is one of the most popular apples in our State, but requires high culture, so that the trees may be kept growing vigorously. It is useless to try to grow it in grass.

Mr. TOWNSEND said that is the reason the Spitzenburg is losing its popularity. Most of the bearing trees are old and have been neglected.

Dr. SYLVESTER could recollect when the Spitzenburg was the most popular apple grown. Most people like its high, spicy flavor, and it is not excelled for cooking. But the trees must be fed to get good fruit. Did not call it a first-rate bearer, but when trees are well cultivated it will give a fair crop.

Mr. MOODY said the Spitzenburg needs a deep, dry soil. CYRUS BEACH, of the town of Cambria, in Niagara county, had grown very large crops—sometimes twenty barrels from a tree.

Mr. SMITH said it does poorly at Syracuse. They think it has had its day and must be abandoned.

L. B. LANGWORTHY remarked that the Red Canada is one of the best apples in the world.

### THIRD SESSION.

Ex-President MOODY, of Lockport, exhibited a number of very fine pear stocks of his own growing, which attracted much attention on account of their fine growth, and at the request of Mr. BARRY, Mr. M. made some remarks on his mode of culture. He had grown 400,000 the past season as fine as the specimens exhibited, one half being of extra size, and the others might well be called first-class. Gave a large quantity of ashes, about 150 bushels to the acre, applied at three times during the season.

### BEST FORM FOR AN APPLE TREE.

V.—*What is the best form of an Apple tree, and which is the time for pruning?*

Mr. SHARP thought he might not agree with others in his views of pruning. Would head all fruit trees low. Branches pruned near the ground are more vigorous and stocky than those formed further up the main stem. They show a disposition to ascend instead of running out horizontally, make a good spreading top, and can bear more weight without injury. Trees trained in this way are also less exposed to the winds. This is particularly the case with pears.

J. J. THOMAS was opposed to pruning the heads of trees high. In many orchards trees might be seen some three stories in height, from successive grafting.

Mr. FISH agreed with Mr. Sharp. Branches pruned near the root are stronger than those formed six or seven feet from the ground.

Mr. HOOKER considered the question a difficult one. Trees grow naturally of all forms. The Northern Spy has an upright growth, Greening crooked and drooping, while the Baldwin makes a round-headed tree. Cut out the young wood from a Tompkins County King, as is desirable for a Northern Spy, and soon there would be no bearing wood left. This variety requires shortening in, while the Northern Spy requires thinning out. It is well to study the habits of trees, for, do the best we can, they will have their peculiar shape.

Mr. BARRY said there is a difference of opinion about the height heads should be formed in orchard trees. He believed in having the heads low. Many advantages result from this course: the sap has not to travel so far; branches near roots are stronger, and not subject to so many accidents, are less exposed to weather, and protect the trunk from effects of sun and

freezing. All our orchard trees are found leaning to the east, the effect of our strong west winds. The higher the head is formed from the ground, of course, the more they are exposed. Low-headed trees are more easily pruned, and the fruit is gathered with much less difficulty and danger. The advantages are numerous and obvious to every grower of fruits. Some think the head should be formed so high that a horse with plow could work under the branches. This is not necessary. The principal feeding roots are at the extremities, and as far out as the ends of the limbs or further. Manure and culture are not needed under branches. Plowing injures the roots by tearing and breaking them. The best fruits are produced from trees where the ground under the branches is always shaded. A slight forking under the trees is all that is required.

Mr. Moody said they had to come to some system of culture that would suit farmers. Farmers would not use the fork. Had found no evil from plowing. Commence plowing when the trees are young, and the roots will not come near the surface. Would form heads four or five feet from the ground. Some tender trees have the bark injured by the sun in winter. This is prevented by growing branches low.

Mr. BEADLE said the climate in which trees are grown, may have a good deal to do in determining the form of the tree. Mr. Moody spoke of the sun burning the trunks of trees. Had seen the same frequently in Canada, the bark injured for seven or eight feet up the trunk. Thought it the effect of the sun followed by hard frosts. By keeping the head low, the trunk is protected. Never saw any ill effects from heading trees low. In Canada they have severe southwest winds. Every tree leans. The main crop is blown off high trees. Mr. B. would not use a plow under or near the trees in an orchard. The roots like to come near the surface for light, and air, and dew.

Mr. HOOKER said the advocates of low heads seemed determined to drive those in favor of higher heads into a false position. Although he did not believe in forming heads as low as some, he was equally opposed to having heads as high as some have described, and as is often seen. But the heads should be formed so high as to admit of horse work under the trees. Farmers can not use forks and spades in cultivating their orchards—they must depend upon horses.

J. J. THOMAS had made a good deal of observation in the length of roots. The radius of the roots is equal to the height of the tree. If the tree is twenty feet in height, the roots will extend twenty feet from the trunk in every direction. Mr. T. inquired if any one had ever known injury to result from plowing an orchard. The tearing of the roots a little he thought not so injurious as neglecting to stir the soil. Apple roots, many of them, go down low, but peach roots lie near the surface.

Mr. E. Moody said orchards should never be seeded down. In order to allow the dews to penetrate the ground, it must be kept mellow, and the natural attraction and affinity from below will draw the moisture. A good "summer fallow" never becomes dry. An orchard should be so planted as to be cultivated almost entirely with plow and cultivator, using but one horse, with so short a whiffletree as to drive within one foot of the tree. I say horse, because in large orchards farmers WILL use teams, and will not use forks or spades.

Dr. SYLVESTER said it is necessary to shade the trunks of trees, and it is also necessary to keep the tree growing to obtain good fruit. To effect this, it is necessary to keep the ground well cultivated, and it is hard to do this if the head is formed very low.

Mr. SHARP is determined to head his trees low, and has a pair of small mules for working under them; and when the trees are too low for these, will try a pair of asses.

*Last part of Ques. 5.—Best time for pruning?*

SHARP.—Whenever you see a limb which ought to be removed, cut it off; but, as a rule, general pruning after the flow of sap has commenced is injurious; has learned this from experience.

B. FISH objected to late pruning, whether in orchard or nursery trees, causing deformity to the tree.

ELLWANGER.—If you wait until the 1st of June before pruning, you get no growth, and that is the case with all late pruning. The best time for pruning is February, if you want a healthy growth of the tree. The most of the pruning, formation, and shaping of the tree should be done while the tree is young.

LANGWORTHY.—Experience has taught that late pruning stops the growth of the trees, and is the most injurious thing in the world. Old trees, if pruned even as late as April, will bleed, will rot and turn black; while pruned in winter the wood will season perfectly, the wound heal over hard and bright, and remain so.

H. E. HOOKER agreed with Mr. Langworthy, that late pruning is a most severe check upon the fruit tree, and in some instances is perfectly ruinous, causing stagnation in the system

of the tree. To cut off large branches in May injures the circulation in large trees; while if cut in January or February the wound seasons and grows over perfectly.

MR. HOLMES argued that the pruning had best be done either before the circulation of the sap commenced, or after the leaves were formed.

At the close of the discussion on this subject members were requested to prepare and leave with the Secretary a list of the best six summer, the best six autumn, and the best twelve winter varieties. The following is the aggregate vote:

*Best Six Summer.—Two Sweet.*

Red Astrachan,	12	Summer Permain,	2
Primate,	10	Early Joe,	3
Early Harvest,	8	Lowell,	1
Early Strawberry,	8	Benoni,	3
Keswick Codlin,	2	Sweet Bough,	12
Summer Rose,	5	Golden Sweet,	8

*Best Six Autumn.—Two Sweet.*

Colvert,	2	Munson Sweet,	7
Twenty Ounce,	10	Fall Jenetting,	1
Gravenstein,	9	Twenty Ounce Pippin,	1
Duchess of Oldensburgh,	7	Pumpkin Sweet,	1
Porter,	7	Maiden's Blush,	1
Jeffries,	3	Fall Pippin,	2
Pomme Royal,	3	Sylvester,	1
Beauty of Kent,	2		

*Best Twelve Winter.—Two Sweet.*

Rhode Island Greening,	13	Smith's Cider,	1
Tompkins Co. King,	12	Norton's Melon,	1
Northern Spy,	12	Canada Reinette,	2
Baldwin,	12	Blue Permain,	1
Spitzenburgh,	8	Rwule's Jannet,	2
Golden Russet,	8	Tolman Sweet,	14
Roxbury Russet,	7	Seek-no-Further,	2
Peck's Pleasant,	7	Green Sweet,	3
Yellow Bellflower,	5	Ladies' Sweet,	5
Pomme Grise,	4	Cooper's Market,	2
Canada Red,	5	Cranberry Pippin,	1
Swaar,	6	Ribston Pippin,	1
Red Cheek Pippin,	3	Bailey Sweet,	3
Wagener,	6	Jersey Sweet,	3
Belmont,	2	Pound Sweet,	1
Fameuse,	7	Hill Sweet,	1
Rambo,	5	Pomme d'Or,	2
Vanderveere,	1	Jonathan,	1
Minister,	1	Mother,	2

MR. BARRY announced that among the distinguished fruit growers present, he was happy to observe the Rev. J. KNOX, the celebrated Fruit Farmer of Pittsburgh, who has two hundred acres in fruit, and fifty acres in strawberries. The President requested Mr. K. to favor the meeting with an address.

MR. KNOX stated that he has had more experience with strawberries than any other fruit, and without pretending to make an address, he would give the members the benefit of his experience in strawberry culture, treating of soil, preparation of soil, cultivation, and varieties. He considered a rather light clay soil preferable to a sandy soil, for strawberries. The first work in its preparation is thorough drainage, next breaking up or pulverizing, from twenty to twenty-four inches in depth. This is effected by the plow alone. First use an ordinary plow, with two horses, followed by Mapes' lifter, a kind of sub-soil plow, with two yokes of oxen. Give the ground several plowings in different directions, until it is well broken up and pulverized. Could produce two or three very good crops on land plowed in the ordinary way, eight or ten inches, but on that two feet deep could obtain ten or twelve crops in succession. Straw-

berries do not require much manure. Any good wheat or corn land is good enough for strawberries. Plants in rows thirty inches apart, and the plants ten inches apart in the rows, making twenty thousand plants to the acre. When he commenced strawberry culture, he plowed between the rows, but latterly has discarded all implements in his strawberry plantations, except the hoe. Weeds are taken out by hand. The less the soil is disturbed after planting the better, as the whole ground is covered with a net-work of small, fibrous roots. Never allows the vines to bear the first year planted, but picks off all the fruit-stems and runners, and removes the runners every year that the plant is fruited. Prefers setting out early in the spring. Protects the plants in the winter by wheat or rye straw, thrashed with the flail. Oat straw is not heavy enough, and blows off. Plants bear much better for this protection. The straw is removed in the spring, and placed around the plants as a mulch, and helps a little towards furnishing manure. One half the straw is wasted each year, and needs to be supplied every autumn. Two tons to the acre is about the right quantity of straw to commence with, but after that, one ton of new straw each season will answer.

Varieties that succeed in some soils and situations, fail in others. The Hovey is good in Boston, and he had seen it good in Cleveland, but with him it never succeeded. Some varieties seem to run out, after culture a number of years. Pistillate varieties do better when impregnated with some staminate sorts, than with others. On this subject he is trying experiments. The strawberry season ought to be lengthened. It is usually about three weeks, but with proper selection of sorts, can be extended to five weeks. The sorts he liked best were the following:

*Early*—Baltimore Scarlet, Jenny Lind, Burr's New Pine.

*Late*—Trollope's Victoria, Kitley's Goliath, Nimrod, Buist's Prize.

*Medium*—Brighton Pine, Boston Pine, McAvoy's Superior, Scott's Seedling, Moyamensing, Downer's Prolific, Fillmore, Golden Seeded, British Queen, Vicomtesse Hericart de Thury, Wilson's Albany, Triomphe de Gand.

For a general crop, Wilson's Albany and Triomphe de Gand are the most profitable. The latter is the strawberry of all strawberries, and possesses all the excellencies that can be desired—productive, beautiful, large, of fine quality, berries shipping well, and the plants are hardy. It is not as productive as the Wilson, but an acre will bring more money. Sent them to Cleveland, Chicago, Philadelphia, and New York. Received orders from New York for more than his whole crop. If confined to one strawberry, he would plant the Triomphe de Gand. Although not quite as productive as the Wilson, he could say with safety, that it produces more than 300 bushels to the acre. For canning, the Wilson is preferred. The only manure used is well rotted stable manure. The same plant, if the runners are kept off, will bear ten years. A good many crowns will start and cluster around the original plant, each bearing a fruit stem, and all producing a very large amount of fruit. He observed several fruit growers from Canada present, and expressed the wish that all the troubles of nations could be left with the lovers of fruits and flowers for adjustment; then our spears would soon be turned into pruning-hooks, and our swords into plowshares.

Mr. VICK expressed pleasure at the remarks of Mr. KNOX. They show that the very best culture is successful on a large scale. We are too apt to think that good culture must be confined to amateurs or garden culture exclusively, and is unsuited to the orchard and market garden. This is an error. That system which is most profitable in the garden, will be generally found so in the orchard.

#### GRAPES.

*What are the best six varieties for family use, and which are the best two for vineyard purposes?*

Mr. KNOX of Pittsburg has been testing a number of varieties, of which three have given entire satisfaction, viz.: *Concord*, *Delaware*, and *Hartford Prolific*. The Concord and Hartford Prolific are entirely free from disease in the vine and in the fruit also, while they ripen their fruit early and well. The Delaware is a very superior grape, and ripens in Pittsburg by the 5th of September, and is a very superior wine grape without the addition of sugar to its juice. Concord generally ripens its fruit well, and is probably destined to be the great grape of this country. Hartford Prolific ripens its fruit by the 1st of September; but although the grapes readily sell for twenty-five cents per pound, he would not plant it very largely, as the fruit has a tendency, under some circumstances, to drop from the bunch. Had found that the Catawba produced much more abundantly if laid down and whole vine covered with earth each winter. The Concord vine stands more hard usage than any grape that I know of, but repays well for good cultivation. The vine bears early and abundant crops of the most beautiful grapes that I know of. Adopts the renewal system, planting a thousand vines to the acre, and training

upon trellis eight feet high. Obtains twenty-five pounds of grapes from each vine after the third year.

Dr. H. H. FARLEY, of Union Springs, finds Diana to be one of our most valuable hardy grapes, and it is his decided favorite. Delaware does not suffer at all from mildew, and we think a great deal of it. Concord will prove our most valuable native grape, the vine being as hardy as an oak, and not killed by cold nor variable weather. Isabella has proved valuable for vineyard purposes, but of late years has been winter-injured. Catawba can not be ripened to perfection in Western New York. The renewal system of pruning and trimming is unquestionably the correct one, as all vines bear their best fruit from young wood.

Mr. LANGWORTHY spoke of Delaware, Concord, Diana, Hartford Prolific, Union Village, and Rebecca, as the best six for family use, and Clinton and Delaware as the best two for vineyard purposes in this climate.

In answer to several questions, Dr. FARLEY stated his vineyard to be high and dry land, originally poor and clayey, with the subsoil *all* clay. He plowed it from eighteen to twenty inches deep, by using three teams; then underdrained it all, and the tile discharge water now. Then applied muck in its crude state pretty freely, plowing it in; and planted the vines upon the land thus prepared.

*Experiments.*—Trenched one piece of land three feet deep, and the vines planted upon it made wood beautifully, but bore very little fruit. Tried planting the vines twelve feet apart each way, and found that they were too far apart. Tried eight feet apart, and found that they were too near. Tried eight by ten feet apart, and likes it best. Ringing the vines causes the fruit to ripen from two to three weeks earlier, and the grapes to be much larger than natural; but this earliness and size are gained at the expense of the flavor of the fruit.

Mr. HOLMES, of Syracuse, had found the Clinton better than any other sort with him for wine purposes. The chief fertilizer which he uses is hard wood ashes, (and some soap suds,) which causes the fruit to ripen from two to three weeks earlier, and in much greater perfection than other grapes near by, and not treated in the same way. Considered perfect underdraining of very great advantage to vines. As to winter protection, would lay upon surface of ground and cover with loose earth.

Mr. HAYWOOD had found that a barrel of ashes to each vine, would, under favorable circumstances, cause even the Catawba to ripen its fruit; while Mr. Moody had never yet seen a ripe Catawba in Western New York. Mr. Moody would recommend Delaware, and Concord, and Diana for family use.

Dr. SYLVESTER would advise for family use the Delaware, Diana, Concord, and Union Village, which is a fine large grape, and ripens at same time as Rebecca; Isabella, which usually ripens by the 25th of September; Hartford Prolific, and Rebecca. For vineyard, the Oporto, which ripens by the 15th of September, and the Clinton. Has found the Diana to ripen as early as the Delaware. Clinton are not in perfection until the frost touches them a little, and then they are the richest in wine-making qualities of any except the Cincinnati-ripened Catawba. Clinton keeps until February in perfection, and is the best of any grape we know of for keeping. Oporto produces three gallons of pure juice to the bushel of fruit, and from the residue we make a second quality wine by adding sugar and water. Oporto is perfectly hardy, and needs no laying down; but for winter protection Dr. S. buries all his sorts of vines a little if possible.

GEO. ELLWANGER referred to adding sugar and water to grapes, stating that the mixture thus produced was a cordial and not a wine. Wine is the juice of the grape, and nothing else. Clinton is the grape for wine in this latitude, and Delaware, Diana, Concord, Hartford Prolific, Rebecca, and Isabella are our grapes for family use.

WM. BROWN SMITH spoke favorably of Northern Muscadine, which this year with him did not fall from the bunch at all; and named Hartford Prolific, Delaware, Diana, Northern Muscadine, Isabella, and Concord as the best six grapes for family use.

P. BARRY spoke of the Rebecca, when ripe, as being the highest flavored of all our native grapes; but the vine is rather delicate in its summer foliage, and requires a good situation with a warm soil and southern exposure.

C. L. HOAG from thirty sorts which he had fruited, could recommend Concord, Delaware, Diana, Hartford Prolific, Perkins, and To-Kalon for family use. As to the dropping of grapes from the bunches, where the Hartford Prolific vines were shaded, the berries dropped, and where not shaded did not drop.

F. W. LAY liked the Concord better the longer he kept it, and would recommend Concord, Delaware, Diana, Rebecca, Isabella, and Hartford prolific for family use.

Mr. KNOX thought the Concord possessed all the good qualities of the Isabella, and more too. (Other remarks by other members.)

Adjourned to meet at Rochester in June, 1862, at call of Council.





*Vanda suavis.* (Engelm.) Vandar  
for THE HORTICULTURIST

THE  
HORTICULTURIST.

VOL. XVII.....APRIL, 1862.....NO. CXC.

Hints on Grape Culture.—XIV.

HE ground having been prepared, the vines selected and planted, and all preliminary operations performed, we will now give our attention to the care of the vineyard during the *first year* of its life. It is not necessary yet to say anything in regard to the various systems of training advocated by different parties. All good systems that we have any knowledge of start from the same point, or, at least, should do so; it can make no difference, therefore, so far as this part of the subject is concerned, what system is adopted.



As the season of planting is at hand, we will say here briefly, in answer to inquiries, what we have already said in a former article, that a trellis should be about six feet high; that the rows should be six feet apart; that short-jointed kinds, such as the Delaware, Rebecca, &c., should be planted four feet apart in the rows, and long-jointed, rampant growing kinds, like the Concord, Union Village, &c., six feet apart. All who grow, or who intend to grow, grape vines, should read these articles from the beginning.

To return to the care of the vineyard during the first year. It is a very common practice, and as bad as it is common, to leave the vines to take care of themselves during the first year. To say nothing of the condition of mind which such negligence indicates, the vines suffer material injury in consequence, and in some instances die from this cause alone. We have reason to believe that this neglect, in many cases, is the result of a belief that the young vine needs no special care, and that proper attention would be given if it were thought to be necessary. This practice is very much like that indulged in by unfeeling parents when they think to make tender infants "tough and hardy" by exposing them half-clad to the winter's cold. In both cases physical laws are violated, and with nearly analogous

results: some pass through the ordeal, but, alas, how many do not. Let it be known, then, that the vine needs special care when it is young above all other times; that when just starting into life, as it were, it will bear neglect with less impunity than at any other stage of its existence. It is during the first years of the vine's life that it acquires constitutional vigor and sound condition; if at this time it becomes weakened or diseased, the chances of its recovery become very remote indeed. Let our readers ask themselves how many of their vines and trees have died from imperfect planting and neglect during the first few years of their existence. Many horticultural subjects that have died from these causes have had their dead bodies piled up before the nurseryman's door, as if there were not enough that might justly rise up in judgment against him.

The object, then, of the first year's operations in the vineyard should be, to obtain a vigorous, healthy growth; in other words, to secure *constitutional vigor and health*. This object is to be obtained by judicious culture and training. We here use the word culture in reference to the treatment of the *soil*, and the word training in reference to the treatment of the *vine*; generically, the word culture would cover the whole subject, but we propose to treat it in a twofold manner.

First, as to the treatment of the soil. A variety of opinions are in vogue in regard to the propriety of growing crops between the rows of vines in a young vineyard. Some recommend growing crops of various kinds; others, but a very small number, think that nothing should be grown. There can be no doubt that the vines, in the latter case, would be placed in the very best circumstances for securing the object in view, provided the soil were kept free from weeds and frequently stirred; but is it necessary that the wide space between the rows of vines should be wholly given over to idleness during two or three years? We think not. There are some kinds of plants that may be grown between the rows without injury to the vines during two years at least; there are cases in which plants may be grown between the rows with decided advantage; for there are persons who otherwise would not keep the soil sufficiently open and clean, and much less injury will accrue from a cultivated crop than from weeds. It must be understood that the cultivated crop is to be manured as usual, and not grown at the expense of the vines. The crop, also, whatever it may be, should not be grown so near the vines as to interfere with their roots; neither must their roots be injured or disturbed in the operation of hoeing. It must be carefully borne in mind, that the vines are to have the preference in every thing, and that no operation is to be performed which will interfere with or check their growth. It is a matter of no small importance, too, that the ground should not be trodden on more than is absolutely necessary for the indispensable operations of culture and training.

The question will now arise, What are the best crops to be grown between the rows of a vineyard? This may be answered by saying, in general terms, the usual hoed crops; yet corn is not admissible at all, neither is any crop that grows more than a foot or so in height, or that spreads much on the ground. Such crops

can not be grown without serious damage. No crop, again, that is earthed up should be grown; we therefore exclude potatoes, not only because they spread over much surface, but also because they are generally earthed up, though we never earth them. Carrots, beets, turnips, and similar crops, may be introduced, and a large yield secured. We have grown strawberries between the rows, and recommended others to do so. It is a profitable crop to be introduced in this way, where the soil is suitable for the growth of the strawberry. Three rows of strawberries, each plant a foot apart, may be planted between the rows of vines. At the end of the third year one row should be removed; and at the end of the fourth year another; and at the end of the fifth year it would be well to remove all. At that time, if not before, the vines will need all the space allotted to them. The strawberries should at no time be allowed to make runners, and the ground must be kept clean and free from weeds. There is an objection to strawberries, however, if the grape vines are to be covered during the winter, and earth is used for the purpose. Keeping in view the general principles we have laid down, each one can select for himself what kinds of crops, if any, he will grow between his vines.

But we have arrived at a stopping place without having said a word about training. That will be in season for our next. We will simply repeat here, that all the newly planted vines must be cut down to two or three buds, and the nearer these are to the base of the vine, the better. They must be cut down to at least a foot of the base, whether eyes are apparent or not. A vine that will not start below that is not worth having.

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#### LANDSCAPE ADORNMENT.—No. XXII. FLOWER AND SHRUB-BERY BEDS.

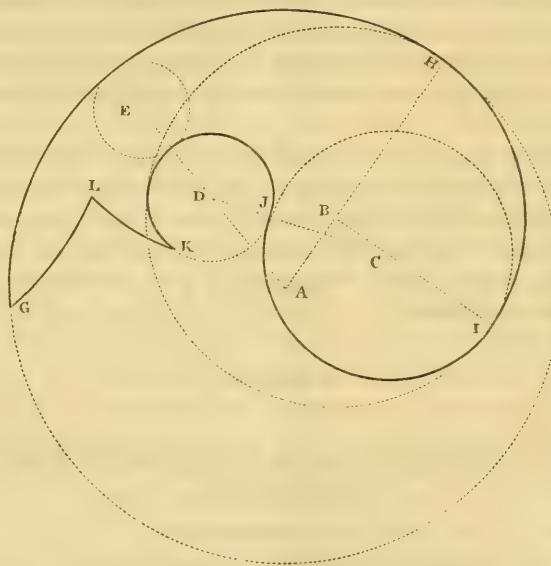
BY GEO. E. WOODWARD,

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THE process of laying out circular and elliptical flower-beds is familiar to many, but the rules hitherto given for laying out irregular figures having curved boundary lines have been exceedingly troublesome, and, unless one is possessed of some ingenuity, are of but little value. The usual practice is to set out the curves by ordinates or perpendiculars from a straight line, these ordinates being either measured on a plan by a scale, or the length of each calculated, and involving more of a practical knowledge of mathematics than the method we propose to explain. It is quite necessary that all operations of this kind be made as simple as possible, and that the most beautiful and graceful forms be adopted, as they involve no more labor in laying them out than those of the most commonplace character. We can well imagine the ten-fold interest that gathers around the

pursuit of a higher range of art which, at even less expenditure of time and money, develops far more beautiful and attractive forms and combinations.

As all forms of the beautiful are bounded by strictly mathematical curves, it is proper that we should make use of the resources of mathematics in reproducing beautiful lines and forms, as they give the power to execute rapidly and with a certain result. In designing flower-beds we must exercise our taste in the combination of curve lines, so that the entire outline or form of the figure be agreeable; and although we are dealing with the most beautiful of all lines considered separately, it does not follow that a combination of them must necessarily be beautiful; but very beautiful forms can be made by any one who tastefully arranges them.



In the diagram we show all the auxiliary lines, the better to explain the principle. It will be observed that the figure is a combination of circular curves struck from different centers, and that the union of each is perfectly graceful, not the slightest abruptness or departure from a harmoniously flowing line. This is produced by the well-known system of drawing the curves so that they are tangent to, or touch each other; and in no other manner can two circular curves unite so that the point of meeting shall be absolutely graceful; the centers from which each curve is described and the point of contact must be in the same straight line.

As a matter of economy as well as gratification, it is better to study out the

design, and the manner in which it shall be executed, on paper. Thus, having decided on the figure shown in the diagram, from the point A, with a divider and to a scale, describe the arc G H. On the line from A to H must be the center of the next curve, which we fix at B; from B describe the arc H I. On the line B I must be the center of the next curve, which we fix at C, and from C as a center describe the arc I J. Now, if we examine the figure, it will be seen that the circle of which B is the center lies wholly within that of which A is the center, and touches it at one point only, at H; the circle of which C is the center lies wholly within that of which B is the center, and touches it only at the point I; and that the centers of each two curves that unite and their point of contact are in the same straight line, as A, B, H, and B, C, I. At the point J we reverse the curve, and to do so draw a line from C through J, and produce to D, the center of the next curve, and which must be in this line; from D, with a radius D J, describe the circle of which D is the center; at the point J this circle then touches or is tangent to the circle of which C is the center, and C, J, and D are in the same straight line. The curves K L and L G are struck from independent centers, and give variety to the figure. If desirable to inclose the whole figure with curved lines, connect the last curve made from the center D with the first one made from the center A by drawing a line from A through D, and producing it to the circumference of the circle of which A is the center; then bisect that part of the line between the circumference of which D is the center and that of which A is the center, and describe the circle of which E is the centre, which is tangent to both circles A and D. This would form a second figure, and leave a third cut off. A fourth and fifth figure can be made by cutting the original figure in two with part of the circumference of the circle of which B is the center, as shown by the heavy dotted lines; and a sixth figure would be left by removing from the original figure the circle of which C is the center. Thus, by this process, we can make six or more different figures, either one of which has a good form, and we may say that the design of most of them was purely accidental. This mode may be carried almost to infinity, and one could hardly fail to find on every trial a form which might be claimed as original. A half hour's trial with a ruler and dividers is sufficient to make any one an expert.

Having decided on the original design, all that is necessary is to transfer the centers A, B, C, D, and the initial point G, to the ground, and in the same relative positions as on the plan. They might be set out on a base line; thus, draw on the plan a straight line running between the five points named, and measure with a scale the perpendicular distance to each point, and from the same line on the ground set them out; then from A, with a radius A G, (which should be a metallic tape or chain to prevent stretching,) describe the curve G H; H being in line with A B, is easily found; then from B describe I H; I will be in line with C B, and so on. The centers should be preserved, so that at any time when grass grown, the verge can be cut clean and accurate in the same manner as practiced in beds

of single circles; an advantage that will be appreciated by those who have an artistic eye.

This process of joining curves of greater or less radius, or reversing them, is applicable to roads and walks, and is the only mode by which curves flow gracefully into each other, and any plan which does not embrace this principle is defective in artistic excellence. We do not mean to say that curves of long radii are struck from centers, but that curves of different radii, when so used, should be tangent to each other, whether laid out from centers or on the circumference. We do say that compound circular curves are practically identical with any curve that can possibly be made use of in any department of landscape adornment, and that there is no curve known, or gracefully flowing line, but what is rigidly mathematical. Will some one give us an example to the contrary?

[We can not help adding a word of commendation here. We regard this as one of the very best and most useful articles that Mr. Woodward has written on this subject; he has here made mathematics available to every body. The principle illustrated is simple, and we know it to be beautiful in its results, while it is capable of infinite diversity. The reader will do well to study it thoroughly.—ED.]

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### PYRUMANIA.—No. I.

BY R. S. S., SUNNYSIDE, N. J.

PYRUMANIA, or the Pear Fever, is an endemic disease, affecting more violently the inhabitants of the rural districts, and chiefly those recently from city life.

This disease has several remarkable phases, and is very well understood by nurserymen, to whom, indeed, its appearance is about as welcome as an epidemic to young physicians, or a financial crisis to briefless lawyers.

The first stage or phase usually commences soon after taking up a residence in the country, and shows itself in a general admiration of fruit, in the sentiment that fruit is "a very nice thing to have in the country." Then half a dozen or a dozen very beautiful and thrifty pear trees are bought, all in fruiting condition, that is to say, with fruit-buds on them, and faultless in shape and proportion. These trees, because they are *specimen trees*, the nurseryman very reluctantly, yet out of distinguished consideration for the purchaser, very obligingly agrees to part with, (how kind in him!) And so they are bought at a big price. We say nothing here about the other fruits gone into, because it is not necessarily a part of the present thesis. We might, indeed, extend the investigation into kindred affections, such as the *Vitifermania*, or Grape Fever, which prevails very extensively in certain localities, and is extremely fatal to plethoric purses. But our present investigation is solely as to the specific morbosity which forms the caption of this

article. To go back again to the point of our digression, namely, those pet Pear trees. Most carefully are they tended; every branch is shortened and directed *secundum artem*, either in the true standard or the pyramidal form, the espalier or the pyramide Fanon, or *en colonne*, or *en vase*, or *a la forme*, any thing else which the symptoms of the case may suggest; then the first appearance of fruit is watched; and when finally the first respectable Pear, a Pear, is realized, then the patient may be said to be actually infected: a kind of ecstasy supervenes which soon develops

Phase No. II. The patient now discovers that his genius is too cramped; that he wants a larger field for the exercise of his taste, and putting into use the immense amount of pomological lore which he has acquired during the past year, from the careful study of a whole shelf full of works on scientific agriculture and pomology. The yearning now is for several acres of trees, and at least one hundred varieties. The symptoms now indicate propensities over which the patient has no control. The passion must be gratified. Those three thousand trees must be planted during the coming season, and there is no time to be lost. So nursery catalogues are suddenly in great request, and assorted lists are prepared; munificent orders are given to the nursery, and the mind becomes filled with gorgeous visions of mountains of pears, and golden prospects of prolific market returns. In most cases a piece of ground is taken without any previous course of preparation, either mechanical or chemical, exhausted, perhaps, before it came into the present proprietor's hands, of every element of fertility necessary for the success of the enterprise; but no matter, there is no time for this inquiry, and if a doubt arises, why all that can be remedied *after* planting. So the holes are dug, and the trees are planted in magnificent rows, looking almost as imposing as a brigade of infantry ployed in "column at half distance," and the work is achieved. The patient now experiences a sensible relief; the fever has in a measure abated. This phase is a very dangerous one in the disease, and most generally terminates in

Phase No. III, or the Reactionary Phase.—The symptoms attending this phase are almost as numerous as the different circumstances of the case, and the variety of constitutional idioecacy of the patient. The most usual phenomena of this phase are such as these: First. At the close of the first season after planting a discovery is made (if in the fall) that quite a number of trees, the most promising in appearance when first set out, suddenly "went in" when in full leaf, and now present all the appearance as if some enemy had brought fire to them. And again, (if in the spring,) when all the orchard is putting forth leaf and blossom, there are a number of trees that won't do either; the bark exhibits great patches here and there which, instead of being of a healthy green or brown color, are as black as your hat or Barnum's cherry colored cat. Such things cause gaps in the ranks, but they are carefully closed up, the dead are carried out, and recruits are brought in to fill their places. Second. Things go on pretty much thus and so, with considerable of the so, until the trees begin to fruit; then all of a sud-

den a number of the dwarf trees, which are loaded with fruit just set, put on an extraordinary appearance; the fruit wilts, turns black, and drops off; the leaves, too, wither and dry up, and these trees are "gone in." The borer has got hold of 'em. And now, Thirdly. The orchard has been planted some five years, and so far there has not been fruit enough to pay the interest on the cost of the trees. The varieties selected are many of them worthless. The winter varieties have chiefly proved to be stones when they were gathered, and remained so until late in the season, when they—ripened? No; shrivelled up and rotted. Some of the varieties have become extinct, giving nary a pear to show what they were. Of the original number of trees planted, there is now a woeful deficiency, about the same proportion is left as there usually is on the restoration to peace of the men who enlisted at the beginning of a war. The care of the orchard, too, has become tremendously expensive. It is either a tough sod, or it has to be plowed again and again during the season to keep the weeds down; and at each plowing the trees are shockingly mutilated.

The patient now begins to look over old nursery bills and memoranda of cash paid out for labor, fertilizers, etc., etc., and now the reaction has fully set in. All those golden visions of the outset have turned out to be but baseless fabrics, and the patient, counting the cost, comes to himself with a sigh, and confesses "The hobby is over."

This thesis does not pretend to more than an investigation of the disease and phenomena attending it. The writer has brought to bear considerable experience of his neighbors, and not a little of his own. His positions may therefore safely be relied upon as in the main correct. He has had the advantage of the daily observation of the case of a very near and dear friend, who had been a patient himself, and whose case no one can understand half so well as the writer.

As the usual season of attack is approaching, a further treatise on the proper treatment of those infected would be eminently in place, as it would give instructions how to ameliorate the violence of the attack, guard against bad symptoms, and particularly prevent the disease degenerating into the third or reactionary phase.

[The above was intended for our March number, and put in type for that purpose, but at the last moment a necessity arose for omitting it, which we do not now regret, since on reading Nos. I. and II. in connection, the reader can not fail to comprehend the scope and design of No. I., which he most likely would not have done on reading No. I. alone, and consequently have lost the enjoyment of its humor. This manner of treating a subject presents a tempting opportunity for fine writing, as we here see, but it is very apt to invite criticism. We turn with pleasure to No. II., where, in view of the genial and intelligent manner in which the subject is treated, we may say we have the Pyru—mania, the minus mark constituting just the difference. We should have made up a slightly differ-

ent list of Pears, though those named are very good. The reader will bear in mind what we have repeatedly said about deep planting. We have seen nothing to change our mind on that point. We are so much pleased with No. II., that we shall be glad to have R. S. S. continue the subject, and include in a future number some special directions for pruning.—ED.]

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## PYRUMANIA.—No. II.

BY R. S. S.

GENTLE reader, whoever thou art, whether of the honorable craft of nurserymen, or a plain amateur, be not irreful. If of the latter class, methinks I hear you say, “A true bill.” Doubtless such is the honest confession of many who have been through the mill; and beyond peradventure the question is asked by more, “Is there no such thing as success?” Ah! now we are coming to the point. *Is there no such thing as success?* In what? Why, in cultivating the pear with remunerative returns for our labor. We answer, Most certainly there is, else how is it that our markets are supplied with fine table pears to the extent they are? (not, we confess, to the extent they ought to be.) Do not, then, suppose that in our previous article we mean to discourage amateurs from all attempts to grow this fine fruit for a market—*tout au contraire*—we meant in a playful way to hit off the ill-directed and inconsiderate labor of the too enthusiastic amateur. And we are specially drawn to this explanation through a secret misgiving lest the animus of No. I. may not be properly understood. It is much to be lamented that in so many cases the liberal outlay and labor of the amateur results in failure. But for every such case there is most assuredly a very good reason. The first and main cause of all failure is *too much haste*. We mean thereby an over anxiety to arrive at results. From this it happens that all the conditions necessary to insure success are overlooked; and these wanting, there can be but one result. failure. We say, then, to the amateur, don’t be in too great haste to make a pear orchard—*festina lente*—remember Rome was not built in a day. In the first place, ascertain whether, all things considered, climate and soil, your *locality* is favorable to the pear. If this question is answered negatively, then our advice is, touch lightly; have but a few as special pets in your garden, as it were to show how far natural disadvantages may be overcome by art and science. If, on the other hand, you find, by observation and the experience of your neighbors, that the pear will thrive, then lay out your plans as largely as you please, but go to work judgmatically and considerately. Choose first your site; let it be say half an acre; better begin with a small piece than with a large one. Commence with

*The Preparation of the Ground.*—The first thing to be done is a thorough

mechanical preparation. Some begin this by cropping the ground, such as putting in a crop of potatoes to clean the ground. This we consider an absurdity, arising from the servile following of the untaught practice of our fathers, instead of profiting by their experience. The potato is essentially a potash plant, and one crop will rob the ground of a vital element for the pear to an extent which will take years to replace in the same form. We rather recommend repeated plowing and leaving fallow. Plow deeply—subsoil. If the ground is inclined to be moist, then attend to a thorough underdraining; let this work be done as if for all time. It need be done but *once*, and that should be in such a way as never to necessitate a repetition. If the whole ground could be trenched instead of subsoiling, the extra amount of labor would be fully compensated for in the long run. We well know the great labor of trenching, and we are therefore careful to insert an *if*. We would at any rate recommend trenching a portion of the ground in order to test the question. By way of cleaning the ground, we have found it an excellent practice on the first plowing to give a very liberal seeding of buckwheat, which, when it comes up, should cover every inch of the soil, and be plowed in again when *in flower*. This will be equivalent to many loads of barn-yard manure without its cost, and with the advantage of leaving the ground free and clean of all weed seeds. The process thus recommended may extend through the summer, and bring us up to the season of planting in the autumn, which, for many reasons, we consider the best.

*The Plantation.*—The ground being thus prepared, we come to the preparation of the borders. The question now is, What do you mean to plant, standards, or dwarfs, or both? If dwarfs alone, you may place them as close as ten feet apart each way, which will give you four hundred and thirty to the acre. If both dwarf and standard, then we would recommend twelve feet by twelve every way; the first row to contain a standard, then a dwarf, next a standard, and so on in alternation; the second row to contain only dwarfs, and the third in alternation the same as the first, and thus until the standards are all planted. This will give twenty-four feet between every standard, which, when they in course of time shall have become good sized trees, and the dwarfs between them, effete by age, are dug up, will leave the standards just ample space, and no more. This distance will give three hundred and twenty-five trees to the acre.

Now let the holes, or, more properly speaking, the borders, be staked out, and this will call into play a little amateur engineering. To do the thing accurately requires no little skill, but every intelligent amateur can by the use of the sighting rods and some care manage to stake the holes in line, every way, lengthwise and breadthwise. We recommend this form of laying out in preference to any other on account of the facility of working between the rows. In digging these borders we would lay more stress upon the diameter than the depth. The ground having been prepared as above directed, it will be sufficient to dig the borders three feet wide by twenty inches in depth, throwing the top soil into one heap and the sub-

soil into another. All now is ready for the trees, and the next question is, How many and what varieties are you going to buy? Here we would insinuate a caution, to wit: do not fall into the common error of running on too great a variety. If, as this article presupposes, the plantation is the beginning of the amateur's experience, it would be advisable to keep within a few of the best known and most popular varieties. For a half acre, or one hundred and sixty-two trees, we would suggest as follows:

*Standards.*—Seckel, Bartlett, Fondante d'Automne, Henry IV., Flemish Beauty, Beurré Bosc, Winter Nelis (largely.)

*Dwarfs.*—Duchesse d'Angoulême (largely,) Glout Morceau, Bartlett (very fine as dwarf,) Howell, Bergamot d'Esperin.

We have named but a dozen varieties, and these are all first rate. We have omitted the early summer pears, because we do not consider them worthy of a place in the orchard; and also the late winter varieties, as being impracticable for any but an old and experienced grower, who has advantages for ripening with better success than we have ever enjoyed. We might add a number more very fine varieties, but we have named this list only by way of suggestion.

The usual course is to buy these trees at the nearest nursery. This is a good rule, for, as a general thing, the nearer the nursery the surer the success in transplanting. But a very important question here arises, Is your locality one much or at all infested with the borer? If so, either send for your trees to any distance where the borer is unknown, or else go to the nursery yourself, and see every tree taken up, scrutinize closely the roots, and condemn every tree the borer has touched; for otherwise you may stock your orchard with this pest to pear growers. We would recommend trees from two to three years old; nothing, however, under two years. As to buying older trees because they have fruit buds, we deem it unadvisable except for a few specimen trees. In getting trees from a distance there is frequently great damage done, which the inexperienced amateur will not discover until a year or two after planting; that is to say, in the handling and packing many buds get rubbed off, and trees which have been selected for their symmetrical beauty, and for which perhaps an extra price has been paid, become the most intractable and unsightly in the orchard. On this point we speak feelingly.

We do not think much of amateurs raising their own trees. We believe in the maxim, "*ne sutor ultra crepidum,*" and think this better left with those to whom it belongs—the nurserymen. But we would recommend the purchasing of trees of one year old from the bud, and planting them in a nursery at double the distance in which they before stood, there to remain as a reserve for future use. This may be done at comparatively small cost, and will afford the highest means for pruning and shaping for any desired mode of training.

And now, as to the setting or planting the trees in their borders as above prepared, we would remark that here, too, haste should be avoided. Let your

stock of trees, when received from the nursery, be carefully heeled in by the roots in or near the orchard, and then proceed leisurely and carefully to the planting.

*Process of Planting.*—The holes being dug as above described, proceed to slope off the edges all around, throwing the soil into the bottom of the hole; this will increase the diameter at the top nearly double, without involving any extra labor. Now mix some of the subsoil with the soil, and throw in, drawing the mass up into a cone, so that when you set the tree in, it will be a little deeper than when in the nursery, observing with the dwarfs to bury entirely the parent stock. Now with great care draw out all the roots and rootlets, so that they will remain as nearly as possible in their natural position; then carefully sift in the fine top soil, and with the hand work it in so as to fill all the spaces between the fibrous roots. To do this well requires two persons, one to hold the tree and adjust the roots, and the other to fill in the soil. Some persons make a practice of drawing up the tree when partially planted, and shaking it, thinking thereby the better to work the soil into the cavities; this practice can not be too severely condemned, as it tends to break off or injure the fibrous roots. When the roots are all covered, fill in the remaining subsoil, levelling the same on the top of the border.

It will be remarked that we have said not one word about manure, nor do we mean to say more than this: keep it away; do not for the present apply any; it will be time enough a year hence. Now we have told the whole secret and the conditions of success. It seems no great mystery either, but, as we have said before, the great cause of failure is in the neglect of some or all of these conditions. It simply resolves itself into these two elements—thorough preparation of the ground, and careful manipulation. We have known the first carried out so far as to haul extra soil on the ground to deepen the soil of the plantation. Wherever the means of the amateur will justify such an expense of labor, it will, no doubt, pay a handsome interest; this is a point, however, on which we will not enlarge, but close this already too protracted essay with the axiom, which, true in every thing else, is surely so in pear-growing, viz.: that it is far better to do a little well than much badly. We leave the application to the amateur.

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#### PRACTICAL RESULTS IN GRAPE CULTURE.

BY HENRY WILLIAM MURDFELT, NEWBURGH, N. Y.

HAVING no new theory to advocate, or any disposition to attack the opinions of others, I merely propose, in a short article, to give you an account of my own mode of raising grapes, which you are at liberty to make known to your readers if you deem it of sufficient value. A liberal interchange of ideas among cultivators can not harm any one, and may do much good. I confess to having received my pay in advance for all the information which I am about to impart.

My vineyard is situated on the west side of the Hudson River, sloping to the southeast. The land is a yellow clay loam, with plenty of stone of every size, from a man's fist to boulders of many tons' weight; it is what is termed *hard land*, and not inappropriately named: better for building sites than for cultivation. My beginning was under discouraging circumstances, which it is not necessary to state. I set out my first hundred Catawba vines seven years ago, without any extra preparation of the soil. The ground was plowed as for a crop of corn, the holes were dug, and the vines set ten feet apart in rows twelve feet asunder; the spaces between planted with potatoes. The vines were otherwise neglected for three years; they were then pruned and trained to the trellis, and rows of strawberries set between the rows of grapes. From that time to the present the two kinds of fruit have been cultivated, the weeds kept down, and the ground frequently stirred. No manure of any kind was used until 1859, when a sprinkling of bone dust of about six quarts to every square rod of ground was sown broadcast, and has been repeated every year since. These vines in due time began to bear; the first crop was purposely small, and was consumed near home, though a small portion of the fruit was sold for eighteen cents a pound. In 1858 I sold to the amount of one hundred and sixty dollars. The following year to the same amount, besides using all that my family needed and making some wine. The year 1860 but few grapes ripened any where. My sales were but little in excess of the two former years, and in 1861, owing to the unripened canes of 1860, I had not over a quarter of a crop. Observing a tendency in the long arms to generate strong shoots at the extreme ends, I headed in the five feet arms, to three feet, in the spring of this year, and thus produced strong canes near the stem of the vine, where most needed for the coming years; but with these disadvantages, it will be seen that the product was about equal to the other seasons, though it should have been double or more. Any grape planter can readily estimate what may be expected from these vines under good treatment in future years.

Profiting by experience, in the spring of 1858 I prepared the ground for one hundred more Catawba vines; plowed the ground thoroughly, and picked off and removed large quantities of stone; dug trenches three feet wide and twenty-six inches deep, continuing the rows twelve feet apart; laid the top soil on one side and the subsoil on the other; filled in about two inches of small stone, upon which were placed dry corn stalks to keep the ground loose, and on this returned the top soil. This left the trench about eighteen inches deep; the roots, which were good strong layers of Catawba, were then carefully placed, and covered with about six inches of the subsoil, leaving the trench ten to twelve inches deep after planting the vines, and remained so until the fall of the same year, when the ground was plowed and harrowed to a level. It was then planted with strawberries between the rows, and the grape growth cut down to one bud. In 1859 the ground was kept well stirred and free of weeds, still cultivating strawberries, and using no manure of any kind. The growth of this season was cut down to three buds.

In 1860 there was a small show of fruit on many of the vines. Kept the weeds out and stirred the ground often. In the fall removed the ground around each plant, and cut away all surface roots to the depth of eight inches; filled in again, and put on a dressing of six wheelbarrows of top soil to one of hen manure, well mixed, spread over the surface, but not within two feet of the stem of any vine. This was the first manuring. In 1861 I gathered the fruit from four vines, and weighed each separately; the average product was nineteen lbs., and not an inferior cluster among them. The whole hundred vines averaged fifteen pounds, which was sold, together with the product of the original hundred vines, at twelve to sixteen cents per pound. Some sales were made at twenty cents; these are the New York wholesale prices; and the crop marketed was twenty-five hundred pounds. In addition to this, we reserved a liberal supply for family use up to Christmas; gladdened the hearts of many friends with baskets of fruit, and made a barrel of choice Catawba wine, all from two hundred vines. I shall discontinue the cultivation of strawberries or vegetables between the rows, and in their place will set a row of vines, so as to have my rows six feet apart instead of twelve, and then use the cultivator and hoe to keep the ground clean and mellow. I have increased my vineyard to three acres, a part of which is Delaware, though I am quite well satisfied with the Catawbas.

My training is on the renewal system. I raise three canes, two of which, forming the arms or side canes, are tied to the lower wire; the middle one extends upright, and is pinched in at the top of the trellis. Eight feet apart for the vines is better than ten. I pinch the fruit-bearing shoots two leaves beyond the fruit, and do not disturb the laterals. I always remove the secondary shoots, and allow not more than three bunches of fruit to grow on any one shoot. If much fruit is grown, I reduce the clusters on each shoot, endeavoring to avoid all extremes in pruning. My vines have never been covered or protected in winter, and don't seem to need it. The thermometer has frequently been as low as fifty-four degrees below freezing point.

[There are so very few who, in making a vineyard, keep an account of the expense, or are able to tell how many pounds they have raised on a given number of vines, that our readers interested in grape culture will consider themselves under obligations to Mr. Murdfelt for his important facts and figures. Even on his own showing the results might have been larger; yet they have been such as would satisfy most men under like circumstances. We shall present statements, from other reliable parties, all going to show that native grapes may be grown with profit; a fact in regard to which we never entertained a doubt. All will not succeed alike, owing to various causes, and some few may even fail altogether, but the great fact will still remain.—ED.]

## FRUIT IN THE NORTHWEST.

BY O. S. WILLEY, MADISON, WIS.

THE Northwest sustains so close a connection with the Eastern clime and nurseries, that a word may not be amiss referring to errors committed in this part by the otherwise well-meaning tree growers, who have been so largely patronized heretofore by this section of the country. Our soil is very varied, and exposures of every description have to be contended with: from the lightest sand, through the various degrees of limestone formations to the heaviest clay; and exposures from the warmest sunny valleys, to the bleakest *northern hill tops*. A list of sorts adapted to the one would be an almost total failure in or upon the other, either as regards soil or position. The indiscriminate manner in which trees have been sent out by nurserymen, adapted to different soils, have led to much disappointment and dissatisfaction, upon the supposition that all trees will thrive upon the limestone formation (geologically) found in the southern portion of the State, extending as far north as La Cross, and the central portion of Columbia Co.; the reverse might, and probably would be true north of this, known as the sand region. Then, interspersed over both, is the clay tract, principally north of Racine, though its presence is quite visible most of the way upon the Lake Shore, and in limited districts throughout the State.

We wish to draw the attention of our Eastern brethren to this diversity of soil and the necessity of seeing to the adaptability of sorts, not only for their, but our mutual good. The winters of '56 and '57 taught the West a valuable, though expensive lesson, which in some sections and isolated cases of sorts yet lingering, is still bringing forth its fruits of wisdom in burying the Rhode Island Greening, Baldwin, Esopus Spitzenburgh, Swaar, Early Harvest, Rambo, Fall Pippin, &c.; but in some cases even these (the tenderest sorts sent out from the East) have produced fine specimens. But the location must be the best, viz., a limestone formation, upon high ground, well drained, and cool aspect; northern or western to be preferred. The

1. *Red Astrachan* is known every where, and succeeds well.

2. *Wine Sap*, Fall and Winter, are gaining many friends, being in some instances the only sorts remaining of an eastern purchase. More are always wanted.

3. *Sweet Wine* is very hardy; an upright, strong grower, with age bears well. Medium size, round, dull red, on greenish yellow; flesh white, tender; valuable for cooking or stock; too sweet for eating. In use through the winter. This is superseding in many cases the

4. *Talman Sweet*, which is also an abundant bearer; indeed, after obtaining age, will nearly bear itself to death in a "grass orchard." Requires constant feeding and cultivation to sustain its vigor. Both of the last two sorts are being planted extensively.

5. *Duchess of Oldenburgh* and

6. *Fameuse*, or *Snow*, upon rich soils and the limestone regions, succeed admirably ; especially so in the western portion of Dane and all of Sauk Co., where the locations are high and well drained.

7. *Sops of Wine*,
8. *St. Lawrence*,
9. *Autumn Strawberry*,
10. *Bailey Sweet*,
11. *Westfield Seek-no-further*,
12. *Pomme Grise*,
13. *Raule's Janet*,
14. *Red Romanite*, (or *Gilpin of Downing*),

15. *English Golden Russet*, are all adapted to this same latitude, or similar exposure and soil. A portion of them will succeed reasonably well in less favored locations ; as Nos. 1, 3, 4, 7, 8, 14, 15 or are better adapted for level prairie planting (when ridged with the plow) than the others mentioned.

16. *Perry Russet* is a sort sent from the east under various cognomens, as *Winter Russet*, *Poughkeepsie Russet*, *Golden Russet*, &c. It is universally hardy, succeeding in all locations, and much esteemed every where. Tree good grower, forms a round even head ; fruit large, fair, and excellent ; keeps well through the winter. Too many can not be had, as it is the best of all the Russsets.

17. *Colvert*, esteemed for its hardiness, is coming into favor ; a rapid grower, and makes a beautiful orchard tree, productive. Fruit large, yellowish ; rather coarse, sub-acid ; in season September to October.

18. *Cider* (not Smith's) is another of the same class, succeeding upon well-drained locations, and promises to be very successful upon our rich western soils. Tree very hardy and vigorous ; upright, spreading. Fruit oval, medium size, striped, white-fleshed, excellent for kitchen or dessert. Season September to January.

19. *Northern Spy*, so much esteemed now at the East, is fast gaining ground here. Fine crops of it have been raised the past season ('61.) Its characteristic of late blooming will endear it to many frosty locations. Tree very thrifty, vigorous grower, requires well drained soil and cool aspect, else it is subject to sap blight. Fruit is so showy, tender, juicy and sprightly that it is a universal favorite.

20. *Yellow Bellflower* is rather fickle, and quite as impatient of water as any sort named. Upon well-drained soils it succeeds, though very tardy in bearing. A rapid grower, forming a large round head in the orchard, but its impatience of water, if near the surface, will greatly retard its popularity.

Thus we have briefly described a few of our leading sorts, alluding to some of their characteristics in soil and habits, enough, perhaps, to illustrate the position we wished to set forth, viz., the benefit to the West at least, if those of the East who would supply us with the good and beautiful, would give the subject of soil, aspect, and varieties a little more serious thought. It would prove to our benefit and

their credit. This same idea is as applicable to Pears and Cherries as to the Apple; and though we have now occupied twice the space we first intended, we have not yet approached, with the last named, the "beginning of the end."

[We confess to not having given sufficient attention to general fruit culture in the West, especially in the more newly formed states. We have a large number of readers there who are well-nigh starving for information; and we thank Mr. Willey, not only for his article, but for the opportunity of saying to our readers there, that in good time we shall specially attend to all their wants. This should not prevent Mr. Willey, however, from letting us see the "end" of his "beginning." —ED.]

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## ROOM PLANTS.

BY ANDREW BRIDGEMAN, NEW YORK.

THERE are few persons, we apprehend, but what find pleasure in the presence of plants and flowers, and would desire to cultivate them in their dwellings during the long winter months, if any method could be devised by which it could be done successfully.

We might propose the construction of an additional room to the house, but separate from it, with glass roof, and heated by the most approved method, but that is not the purpose of this article; its object is rather to suggest means of transforming the atmosphere of a room, so that plants may grow and bloom, if not as perfectly as in a separate apartment, yet sufficiently well to gratify many who have a passionate love for them, but who now experience as much sorrow as pleasure by their efforts at cultivation.

Before the introduction of gas and the modern heating appliances to private dwellings, it was the privilege of most of the residents of cities to have their stand of plants, and in many instances they grew and bloomed them quite as successfully as in a greenhouse. We remember only a few years since of having a table of plants in a room warmed by what was then called a drum, connected with the kitchen stove below; on the drum was an evaporating pan, always supplied with water. The plants did not have the benefit of the sun until after 2 o'clock p. m.; yet, notwithstanding this, they grew and flowered extremely well; the Hyacinths, in particular, were among the best we have ever seen. Changes, which are not all improvements, (though so called,) in the construction of dwellings and methods of heating and lighting, have rendered equal success almost impracticable, and the remedies we suggest may only be attended with partial success; nevertheless, we offer them with the hope that some at least may adopt them, and receive additional pleasure thereby.

We will not occupy your space by a disquisition on the properties of air, and

the effect produced upon it by combustion, respiration, &c., but will assume the position that the atmosphere of a room, under such circumstances, is partially deprived of its oxygen, and almost wholly destitute of moisture, and proceed from thence to notice the remedies as applicable to plants, believing, at the same time, that a condition of atmosphere congenial to them will be the best adapted to wholesome respiration, and conducive to the health of persons confined therein.

In the first place we remark, that when heat is generated within the room by a stove, or any other means, water should be placed in such position as to secure the greatest amount of evaporation. When the building is heated by hot-air furnaces, and conducted to the different apartments by metal or clay pipes, every register opening into the rooms should be furnished with an evaporator of sufficient size to hold the greatest amount of water that can be infused into the atmosphere by the most approved means during 24 hours; if the evaporator becomes dry, the odor arising from the scorching of the sediment will be any thing but agreeable.

Our first experiment was made with four zinc pans inclosed in one frame to fit the opening in the floor, and each pan connected with the other by a small tube, so that by pouring water into one of them, all became equally full. The spaces between the pans were for the admission of the heated air, being large in the center and diminishing towards the ends, so that the air passing through would with more certainty be infused with the watery vapor arising from the pans. This first experiment showed that four quarts of water could be entirely evaporated within 24 hours from one register by filling it twice a day. A larger and deeper set of pans might be constructed, so as to extend from beneath the flaps of the register to the ceiling below, containing a greater amount of water, and producing an increased amount of vapor, besides requiring less attention. To upright registers, *i. e.*, registers in the sides of the room, an evaporating instrument can be the more successfully applied, because they may be extended any distance down the conductor; but in cases where the conductor approaches the room horizontally it will be necessary to arrange the pans one above the other, always keeping in mind that the larger the extent of surface exposed to the action of heat, the greater the quantity of moisture eliminated.

The stand or table for plants should be made as high as the window sill, long enough to occupy the window recess, and narrow or wide, according to the number of plants to be accommodated. The top of the stand should be bordered round at least two inches in height, and lined with zinc or copper, so as to make it perfectly water tight; the tops of the table thus formed to have a coating of leaf-mould, sand, and loam, and covered with rock-moss leveled up to the rim of the table, the whole to be thoroughly saturated with moisture, and always kept so.

Before placing the plants on the table, inclose each pot in one a size larger. It will not be necessary to fill the space between the pots with soil, but only top-dress them with ordinary compost. The use of beach sand as a top dressing is often practiced, but is objectionable, because it forms no union with the soil in the pot, and consequently gives no indication of its condition.

After having thus prepared the plants, place them on a stand with a saucer under each suited to the size of the pot. The plants can be arranged to suit the taste of the parties; a good method, however, is to dispose of the larger plants so as to show well from all sides, the smaller plants to be placed under and between the larger ones, presenting the appearance of woods and undergrowth, as it exists in nature. Ferns, Lycopodiums, and other plants requiring much moisture, may be planted in the soil on the table among the moss.

The double pot is recommended, because, while many of the roots of plants seek the interior to draw nourishment from the soil in solution, others equally important seek the inner surface of the pot to draw nutriment from the atmosphere; if the pot should become sufficiently dry through the heat of the room to wither and close the fibres or capillary tubes within the pot, the nourishment derived from this source would be excluded, and the plants must suffer in consequence. By the use of the double pot the air between, or passing through them, would be better adapted to nourish the plant. A saucer to each pot is proposed, not that it should receive the drainage from excessive watering and hold it for future absorption, but to protect the roots of the plants contained in the inner pot from too much moisture, which might occur if the plant was set down and became imbedded in the wet moss and water on the stand; it would do no harm, however, if a little water did stand in each saucer, as the inner pot containing the roots would be elevated by the outer pot to beyond the reach of injury by excess of moisture, and the water in the saucer would be absorbed by the outer pot and distributed to the atmosphere.

The same principle of the double pot may be applied to the treatment of plants during the summer months, and for a similar purpose. The direct rays of the sun on the outer surface of a flower pot causes much the same injury to the roots of a plant as the dry atmosphere of a room would occasion, and the same injurious results would follow; hence it is that florists, after repotting their green-house plants in the spring, plunge the pots up to the rim in soil or coal ashes. Coal ashes is preferred for this purpose, because it will not harbor worms, which enter from the ordinary soil into the opening in the bottom of the pot, and change the whole character of the earth.

We may safely conclude that every appliance that can be employed that will successfully infuse the atmosphere with moisture can not do otherwise than benefit the air to the advantage of plants, as well as furnish healthy respiration to the human lungs, and this condition of air it should be our study to create in every dwelling.

Considerable discrimination should be exercised in the watering of plants; every plant should be supplied with enough water at one time to last it for a day at least. Some plants will absorb a much larger quantity of moisture than others; a quantity of water that would sustain one plant a week, may be absorbed by another plant in a single day. The quantity that each will require may easily be ascertained by observation.

All plants kept in rooms and exposed to a dry atmosphere would be benefited by syringing or watering overhead once every day. A convenient and simple appliance may be constructed with little expense, to protect the carpet and curtains of the room from injury by sprinkling, and that is, to have a frame made to extend a foot or more above the tops of the plants and the length of the stand, two other frames of the same height and the width of the stand, and hinged together so as to fit within the border around the top, the three frames, after being hinged, to be covered with muslin, and well coated with a mixture of raw and boiled linseed oil; this screen may also be used to protect the plants from the draught of the window during cold nights, and thus avoid the necessity of shifting the stand into the middle of the room. In ventilating care should be taken not to expose the plants to a strong current of air, even though the temperature should be moderately warm; it would be better to allow the air to waft gently upon them. If the weather be cold, air should be admitted by lowering the upper sash, which should be kept open as long as the safety of the plants will permit; on the approach of night all means of ventilation should be closed. The average temperature to be maintained should not be over sixty during the day, or lower than forty during the night; a few degrees higher or lower could do no injury, provided the two extreme temperatures of day and night did not vary more than twenty degrees.

[Mr. Bridgeman's article will be found worthy of a careful perusal by all who grow plants in rooms, or who propose doing so. Too much stress can not be laid on the point of furnishing moisture to the atmosphere. The evaporating pans suggested by Mr. Bridgeman will be found an important means of effecting this purpose. If, in using saucers under the pots, water is found to accumulate in them, (which is not likely to be the case with double pots,) the purpose for which they are used will be fully accomplished by inverting them.—ED.]

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FRUIT TREE PLANTING—CAUSES OF ITS FAILURE.

BY WILLIAM BACON, RICHMOND, MASS.

WHO can tell the number of fruit trees that have been planted in the country within the last twenty-five years? That they have been many, every observer knows full well; that a large proportion of them have amounted to no more than the setting of so many dry poles. Indeed, we have seen men laboring in tree setting, who did not seem to give more labor than they would have done in setting a hop-pole, much less than in setting a bar post; simply a hole as large square as the blade of the shovel, and of a depth of two-thirds its length, was made, sometimes in swarded land that for long years had not polished a plow-share, and the roots of the tree thrust in, and the earth and turf replaced; and so the labor of planting an orchard was soon over. We have seen many trees so

planted die, just what they should do, if they fell into the hands of those who would not use them better. And then we have heard vile anathemas denounced on nurserymen "who sold such miserable trees," and that it would not do to bring trees from such a section of country, the soil and climate were so different. We have heard those who carelessly planted trees, and very properly lost them, say, "We would like an orchard, but have tried setting out trees, and they would not do any thing. My soil or the seasons, or some thing, is so different from what it formerly was, that trees fail, and I have given up trying to raise them."

Touching the first of these excuses of want of success, we are inclined to the belief that, as a body of men, our nurserymen are as honest as any other class. In our experience, we have sent orders for trees, and have had them filled as much to our satisfaction as though we had been on the ground to see to selecting, taking up, and packing ourselves. That there may be exceptions to this class, is very possible. Indeed, it is very strange if there are none. It becomes purchasers to find who these exceptions are, and let them alone before beginning with them. We fully believe there are honest men enough in the world for all honest men to deal with. To cure dishonest ones, it is prudent to let them alone until they are willing to act on principles of probity, and thus we would dispose of the first objection to raising fruit trees.

"The soil and seasons are so different." With regard to the soil, this assertion, so far as it relates to the older settled portions of the country, is partly true and partly false. The soil, what remains of it, is the same now that it was ages ago. The same rocks are disintegrating now that were crumbling to pieces for time indefinite before the arm of cultivation had gathered the first bountiful harvest that civilization had called forth from the teeming bosom of fertility. It is only the circumstances of the earth have changed. Continued croppings and careless tillage have to a great extent effected this. What quantities of beef, pork, mutton, wool, grain, hay, and, indeed, all marketable substances that the earth brings forth by cultivation, have been taken and sold from off the farms and gardens of the country, for which no restorative properties have been returned? Considering the amount of soil that has been so taken off and disposed of, it is in no way strange that mother earth sinks back exhausted into her own lap, and refuses to labor as she did in her youth, for the benefit of her earth-robbing children. It is no wonder that her once deep, virgin soil sinks down to a few fertile inches, and becomes cold, and hard, and damp, as she settles into the lethargy induced by labor; no marvel that her natural drains and water courses, that fed the beautiful springs of other years, have become clogged up, and that their waters spread and settle when they can, giving clamminess to soils that once were light, and acidity where once all was sweetness.

"The soil is changed." Not in its primitive condition so much as in its productive powers. It has been robbed of the strength which was accumulated by

ages of forest growth and decay, when each year it produced more and retained all. The economy of nature has further been disturbed. Her pores have been closed up, so that the powers of absorption and evaporation have become inactive and unhealthy. Man, not nature, has effected this change for the worse. Man has the means to apply the remedy for the evil he has so heedlessly inflicted. He should have gratitude to do it; at least his self-interest ought to set him at work. How to do it, may be a question.

There are two conditions existing in a great proportion of the soil in the older portions of the country, denoting that it has changed, and that fruit trees will not succeed as well as they formerly did. One of these is a superabundance of moisture in wet seasons, and a great lack of it in dry ones. This may seem a contradiction, but it is not. Such lands are too wet in rainy periods, because all the water that falls upon them, and perhaps more, is compelled to remain on or near the surface. The natural channels for removing it have become clogged, so that it can not pass away. Then the earth beneath has been robbed so that it has become compact. Its pores are closed so that it can not absorb this water, and retain it in its reservoirs, to be taken off again through the same pores for the benefit of plants, as their circumstances need. There it remains surface water, or water just below the surface, until the storms are past, and the thirsty air drinks it in particle by particle, until a baked dryness marks the place once almost a quagmire. The condition of the soil may or may not be quite so bad as we have shown. Circumstances may change with locality. Cause and effect may vary in degree according to circumstances. There is much land in this condition in various degrees, within our knowledge. The character of all crops changes on such lands. Grains die out upon them. The finer grasses die earlier here than in proper soils, and are succeeded by coarse, sour ones, if any at all, that even the beasts of the field reject. Can trees grow in such soils? Turn them out to common and see what happens. The willow may live, but it will not flourish there. How much less, then, can a fruit tree succeed? Their planting out may well be given up, because the *condition of the soil (not the soil)* is changed.

The condition of this soil can be changed again. It can be made as fertile as it was in the first harvest that moved over the ruins of the forest which gave way to the wheat field. It can be made to produce as large and as beautiful fruit trees now, as were those that took the place of the Oak, the Maple, the Chestnut, or the stately Elm. How? Let man retrace his steps and repair the evils he has wrought. *The earth is the same.*

To do this, there are, in the first place, two very important labors to be performed. First, thorough draining; after that, deep and thorough culture. There are other things that may follow, but these are the main considerations. Make your land so dry that there will be no excessive moisture in storms. Open the water courses so that no water will remain standing there to freeze and thaw with every change of temperature; and work deep and thoroughly, so that structure

may be called from beneath in dry times, and the roots of the tree may travel free and unrestrained to gather food and support for the beautiful structure over them.

[Mr. Bacon has here painted a life-like picture with the pencil of an artist. It is only, unfortunately, too true, and needs no embellishment at our hand.—ED.]

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### NOTES ABOUT THE ACACIA (YELLOW LOCUST.)

BY S. L. B., BROOKDALE FARM, ME.

IN additon to the remarks of Mr. Bement upon this tree—vol. xvi., page 169—I desire to add a few notes concerning its history, uses, quality, growth, etc., and in doing so I shall present several extracts from a work upon the Acacia, published by subscription in 1842, by William Withers, of Holt, Norfolk, England.

The Acacia originally derived its name from the botanist who raised it from seed, and introduced it into Europe; this was John Robin, an eminent naturalist, and one of the professors of *Le Jardin des Plantes*. It was during the reign of Henry IV.—1600—that this service was rendered to Europe, and Linnaeus decided that the benefit should be commemorated by calling the tree *Robinia pseudoacacia*. When first introduced into France, it was rapidly propagated, for all were eager to have it on their ground. Its rapid growth, the sweet scent of its flowers, and the graceful beauty of its foliage won for it great admiration; but as the tree became more common, this interest died away, fashion changed, and the Acacia was left neglected. The form of the leaves is very graceful; they are conjugate, and composed of leaflets which are soft to the touch, of a lively green color, and are unattractive to insects. This is somewhat remarkable, when the bark and wood of the tree are infested—according to Dr. Harris—by the grubs of six or seven species of insects.

If planted in a situation favorable to its growth, the Acacia assumes an elegant, tufted appearance, admitting the rays of light, which break playfully through its open branches. Not unfrequently the tree is trained against a trellis so situated that its foliage shall produce a pleasing effect of light and shade. The foliage becomes more dense as warm weather advances, whereas that of most other trees suffers and droops when long exposed to the rays of the sun. It bears pruning remarkably well. In writing of the flowers of the Acacia, Mr. Withers says: “It produces numerous clusters of milk-white flowers, the odor of which is diffused to a considerable distance. It sometimes comes into blossom during the first year in which it is planted. The scent is not unlike that of the orange-flower. An arbor of Robinias is sufficient to perfume a large garden. The flowers are, however, very fugacious, lasting only about eight days; but they do not lose their perfume, which may be communicated to pomades, liquors, and syrups. It is said

that in St. Domingo they distil a most excellent liquour from the flower of the Acacia."

In regard to the value of the wood of the Acacia for timber, I will give an extract from V. de Feuilke, a French author, who prepared a very learned treatise on the "Comparative Value of Indigenous and Naturalized Trees." He states that "the Robinia, on account of its general utility, is one of the best trees ever imported from North America into Europe." This author's close observation led him to conclude that the wood, in its green state, possesses, bulk for bulk, more ligneous qualities and less sap than any other tree. A cubic foot, according to his calculations, weighs 58 pounds 11 ounces; and a cubic foot of the dry wood lost in weight only about three pounds. This writer also observes that one of the most important circumstances in the different kinds of wood is the bulk they lose in drying. Dr. Darlington, in his "Agricultural Botany," writes: "The Locust attains its greatest perfection in Kentucky and Tennessee, where it reaches to the height of ninety feet, with a diameter of four feet. The timber is one of the most valuable, whether for strength or durability; in the former quality it ranks but little below the oak, while its resistance to decay, even when exposed to the most destructive influences, exceeds that of the wood of any other of our forest trees." Loudon, in his "Arboretum," publishes the result of experiments at the government dock-yards in Liverpool, to determine the real qualities of the Locust, and it is shown from these investigations that the wood grown in good soil, in a favorable situation, "is heavier, harder, stronger, more rigid, more elastic, and tougher than the best English oak."

M. Neuchatlau, a distinguished French botanist, who published a short treatise on the Acacia, which was translated and issued in England some twenty years ago, in speaking of the rapid growth of this tree says: "In the park of Enghien some Robinias were raised from seed, which in the course of three years and a half had attained the height of 25 feet, and were 9½ inches in girth. It is evident that these trees must have been grown in very favorable soil; at the same time, it should be observed that the Acacia pushes very rapidly at the early stages of its growth, producing branches over six feet and a half in length, at one flowing of the sap." This writer also states that at Rochette, near Melern, he measured some of these trees which had grown nine feet and ten inches in one year. An intelligent cultivator who resided in Pennsylvania about the beginning of the present century, published the following concerning the rapid growth of this tree: "I am not aware that there is any tree which vegetates so rapidly as the Acacia. In the month of April, I cut down a young tree which was nearly seven feet in height, to make two hoops. In the following October, the shoot that had proceeded from the stock was ten feet high, and three and one half inches in circumference. I once passed a silken thread round one of my Acacias in the month of June, and five days afterwards the thread was buried in the bark."

A Frenchman who resided in this country in 1786, contributed to the Agricul-

tural Society in Paris, a report originally published in the transactions of the Society for that year. He says in his introduction that he does not write as a scientific botanist, but only as a cultivator; and in the report he gives a particular account of all relating to the culture of the Acacia as it came under his observation at that time. I give one or two extracts from this report as being of interest:

"The two-thorned Acacia (*Robinia pseudo-acacia*) is indigenous in the Middle States. I have seen it in the forests of Pennsylvania, Maryland, Connecticut, New York, and Massachusetts. The colonists were first induced to distinguish this tree from a multitude of others, by the order, arrangement, and beauty of its leaves, and the sweet scent of its flowers. They soon, however, ascertained the astonishing durability of its wood, and the rapidity of its growth; and, struck by the advantages thus offered to them, they collected the seeds and formed nurseries of the plants, particularly in the County of Lancaster. Shortly after this they began to plant the tree in favorite spots, before their doors and round the grass plots where the American women are accustomed to spread out their linen to whiten by exposure to the dew. It was soon observed that the shade of the tree, so far from producing aridity of the soil, and destroying the grass beneath it, strengthened the herb, and rendered it sweet and luscious, so that cattle ate it with greater avidity than any grass that grew elsewhere. This induced agriculturists to plant it in meadows, and similar results ensued. Soon after, the Acacia was planted in the vicinity of wells and running brooks, and especially near those places where horses were taken to water, with a view to afford both shade and shelter."

"The Americans make use of the Acacia to secure the banks of their rivers from injury which they are liable to sustain from the combined effect of ice, rain, wind, thaw, and the power of the sun. These, by causing the banks to yield and crumble down, obstruct navigation, and sometimes carry away a portion of the neighboring fields. To obviate inconvenience, this occasioned the natives to plant Acacias very closely together; and by keeping their heads constantly cut to the height of bushes, they cause the roots to ramify to a great distance, and thus the banks are held firmly together, and effectually preserved from the destructive operations of the waters."

This same author, in his "Memoir of the Acacia," tells an anecdote to illustrate the rapid growth and value of this tree:

A friend of his, the year he was married, planted fourteen acres of the Acacia, intending not to touch them until his first child should be married. He took no other care of them than to have them properly fenced off. At the age of 22 his son was desirous to settle in life, and wished the assistance of his father. He sent to a ship-carpenter and sold wood of the Acacia plantation to him for \$1,300, for which he purchased an estate for his son in Lancaster County. Three years after he established his daughter in the same way, and in like manner provided a fortune for all his children.

William Cobbett, who resided in this country during the years 1739-1800, produced quite a mania for the Acacia in England about the year 1823. He wrote largely in its favor, describing the timber as "absolutely indestructible by the powers of earth, air, and water," and calling it the "tree of trees." He was at this time engaged in importing tons of seed and trees from this country, calling them *Locust* trees, since which time this name has been superseded for that of the original one—*Acacia*.

[A very interesting contribution to the history of one of the most valuable of our trees. As a timber tree its value is not exceeded by that of any other that can be planted. We esteem it a very beautiful and striking tree for landscape effect, though seldom used for that purpose. Its effects in the way of light and shade can be produced by no other. It will grow in almost in any soil. Some of the poorest lands of Long Island are covered with it. It is a mistake, however, to suppose that its leaves are not preyed upon by insects; these, thus far, are confined to localities, but gradually spreading. In September we have seen plantations of thousands of trees completely browned by an insect which eats out the green matter (*chlorophyl*) between the epidermis.—ED.]

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#### GRAFTING THE GRAPE VINE ON PIECES OF THE ROOT OF THE WILD FOX GRAPE.

BY HORTICOLA.

SEVERAL years ago I read something about grafting the grape vine on pieces of the root of the wild Fox grape, and, fond as I am of experiments, I concluded to try it as soon as I should have an opportunity. In the spring following, having come into possession of two very vigorous plants of the *Anna*, I sent a man out into a neighboring swamp to dig some roots of the Fox grape. This took place on the *fourth of April*, while the ground was still frozen in many places not exposed to the rays of the sun. I chose only such parts of the root as were succulent, not woody, and not much thicker than a goose-quill, and cut them into pieces from five to six inches long, being careful to take only pieces that had some fibres. The method of grafting was the common cleft grafting; some of the scions, however, I spliced on, tying every one of them with woolen yarn, and waxing the tops of the roots around the scions. Each scion had two buds. They were planted so deep that the uppermost bud was just visible above the ground. To be perfectly accurate, I should have stated that a stump about an inch long was left above the uppermost bud of the scion.

I was not a little astonished to see *every one of them grow*. They were twenty-three in number. A gentleman of large experience in propagating the vine, when he saw my young plants, expressed his surprise at my success.

At the same time I grafted similar pieces of root with scions of but one eye each. Some of them took very readily, *i. e.*, Diana, Hartford Prolific, and Concord, yet some of the very same kinds did not. This was owing to the impossibility to plant them deep enough; they dried up.

Although I had succeeded so well, yet my interest in cultivating the grape vine was then exclusively confined to experiments for their own sake, so that I neglected the plants, part of which were accidentally destroyed. Those left I took up in the second fall after planting. The union of the scions and roots was so perfect, that I was unable to discover the place where it had been effected. The roots were from ten to twelve feet long.

That I should feel very much encouraged by this experiment, was very natural; consequently I persuaded several friends of mine to adopt this mode of propagating. Last spring I grafted in the same way more than *four hundred* Annas, Delawares, *Dianas*, *Herbemonts*, and a great many other kinds, with so much confidence, that I made simultaneously arrangements for transplanting them as soon as necessary, promising to my friends lots of them. They took nicely, but after they had developed one or two leaves each, **EVERY ONE OF THEM DIED!**

I can hardly say whether I prefer my former success to this failure, which, being so general that there was not a *single* exception, induced me to investigate the matter and to find out the cause. In this, I think, I succeeded perfectly; I do not hesitate to let the readers of the HORTICULTURIST into the secret, on the condition that each of them who is in a proper condition shall try my experiments, either to verify or explode them.

As stated in the above, I planted the grafted roots so deep that the uppermost eye projected just above the ground. Here I will add that I planted them *perpendicularly*. Last spring, however, I planted them *slantingly*; in fact, I laid them in a furrow wide enough to receive them, inclining against a little ridge at an angle of 45 degrees. The scions had very little soil on them to protect them against sudden atmospheric changes; so every one of them was destroyed by the late frosts of the spring. *Had I planted them as deep as I did the first time, the bud just above the junction would have been safe.*

When "El Medico" reads this, he will easily believe that I should wish to be able to annihilate the space stretching between him and myself. I greet him with the words of Tibullus: "Vivite felices, memores et vivite nostri!"

[By a strange coincidence we have both El Medico and Horticola in our present number. We embrace the occasion to place their hands together, and congratulate them as "fratres gemini" in grape grafting under difficulties.—ED.]

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## RESTORATION OF FROZEN PLANTS.

BY PETER HENDERSON, JERSEY CITY, N. J.

MR. EDITOR:—I confess myself somewhat mystified by the philosophic theory of your correspondent, Daniel Barker, in last month's *HORTICULTURIST*, on this subject; the reasoning is too profound for my apprehension. I can not follow him, and can only understand his deductions, from which I entirely disagree.

He says "it follows that the application of water should commence before there is any alteration in the temperature of the surrounding atmosphere;" by which is meant, I suppose, that on finding our plant-house frozen on getting up in the morning, we must not apply fire, but water. I am afraid Mr. Barker will find few converts to that doctrine, no matter how fine he may show it in theory—disastrous experience in practice is strongly against it. We will suppose that, on entering a green-house at six in the morning, we find the plants frozen, the thermometer marking 28 degrees, with an outside temperature below zero, and a high wind from the north; under such circumstances I have repeatedly seen the thermometer fall from 2 to 4 degrees before fire, with all possible speed, could be got to act on the flue or pipes. Would Mr. Barker, under such circumstances, still persist in applying cold water? If he did, he may rest assured that it would dissipate his fine theory and the existence of every tender plant at the same time.

I know that the opinion is very general that when plants are frozen they are benefited by being shaded from the sun's rays, and by gentle syringings of cold water; but with all deference to the belief, I must say that my own experience leads me to the conclusion that it is a doubtful remedy. We are too apt to receive a handed-down maxim of this kind as a fact, without investigation or experiment. Getting a house of plants frozen is always a serious and vexatious matter, and few have courage enough to experiment, but at once apply the popular remedy. And as a sick man may use a harmless quack medicine, if it results in a cure, (!) the medicine is lauded by the grateful patient; if he dies, he was too far gone for recovery. Just so with a frozen plant. If Jack Frost has laid his hand but lightly on, it will recover, medicine or no medicine; but if severe enough to rupture the cellular tissue of the plant, all the remedies in the world will not avail.

I had an excellent opportunity of testing this matter, on the night of the 5th of February of last year—the coldest of my experience. Our means of heating were found entirely inadequate to keep out the frost; the consequence was that I had several of my green-houses frozen, two of them very badly, but as is usual in such cases, frozen only at one end of the house. Although I had no faith in the shading and sprinkling remedy, I resolved still further to confirm my unbelief.

One house containing Verbenas was shaded and sprinkled in the orthodox style, after the thermometer had reached 32 degrees. The other, containing Fuchsias, Geraniums, Heliotropes, &c., was left exposed to the sun's rays without sprinkling.

Now mark the result. In *each* house for the first four or five sashes, where the frost had struck severely, all were killed outright; in the next four or five sashes, some were killed, and some severely injured; the remaining part of houses being but slightly frozen, were nearly free from injury. The effects in each house were as nearly alike as they could be; there was no difference perceptible in the house where the remedy was applied, and where it was not.

But doctors differ, and I see, Mr. Editor, that I differ with your august self in this matter. But the next time you are unfortunate enough to get "caught" by our arch-enemy, make "two divides" of your parlor pets, faithfully and hopefully sprinkle the one lot, and leave the other unbaptized heathens, and give the result to your readers.

[We leave Mr. Barker to respond in his own behalf. We have stated our practice to consist in shading the plants, raising the temperature very gradually a few degrees above the freezing point, and then applying cold water. Our success has been almost uniform; Mr. Henderson confesses to a decided loss in both his cases; we therefore feel warranted in holding to our plan for the present. We mean, however, to give his a faithful trial at the first unfortunate opportunity. But his plan does not differ so materially from ours as would at first sight appear; for the coating of ice on the glass of a green-house forms a very good shade indeed, though in a bad case we should want something additional. Plants may undoubtedly sometimes be so frozen as to be past recovery; but we have no hesitation in saying, that our plan, faithfully observed, will in a majority of cases prove decidedly efficacious. We have here a fine field for experiment, but a costly one. Mr. Henderson's article was intended for our last number, but was crowded out.—ED.]

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#### YELLOW NELUMBO, OR WATER CHINQUAPIN (*Nelumbium luteum*.)

THE *Nelumbium*, and, indeed, all kinds of water plants, have received increased attention since the introduction of the *Victoria regia*. The *N. speciosum*, a finer species than the *N. luteum*, but much more tender, was first grown here under glass by the late Mr. Hogg; indeed, we think he was the first one to make *speciosum* bloom. Of *N. luteum* we have received a package of seed from a friend in Woodstock, Salem Co., N. J., which we shall be glad to distribute among those who may wish to grow it either under glass or in artificial ponds. It is hardy in the Northern States. With the seed we received the following notes, which will be found instructive and interesting:

"The Water Chinquapin has the largest flower of any plant native in the Northern States. Its habit is much like that of the Pond Lilies, and it is common in the waters of the Southern and Western States, though rare in the Middle and Eastern. It grows readily, and can easily be introduced in favorable

localities; and with its enormously large leaves and flowers would make a handsome addition to our list of water-plants. Bartram, in his Travels, (page 408,) makes the following note in regard to it: 'Next morning entered the Tombigbee, and ascended that fine river; just within its capes, on the left hand, is a large lagoon or capacious bay of still water containing many acres in surface, which at a distant view presents a very singular and diverting scene, a delusive green wavy plain of *Nymphaeæ nelumbo*; the surface of the water is overspread with its round, floating leaves, while these are shadowed by a forest of umbrageous leaves, with gay flowers, waving to and fro on flexible stems, three or four feet high; these fine flowers are double as a rose, and when expanded are seven or eight inches in diameter, of a lively lemon yellow color. The seed vessel, when ripe, is a large, truncated, dry, porous capsule, its plane or disk regularly perforated, each cell containing an oval osseous gland or nut, of the size of a filbert; when these are fully grown, before they become quite hard, they are sweet and pleasant eating, and taste like chestnuts. I fed freely on them without any injury, but found them laxative. I have observed this aquatic plant in my travels along the eastern shores of this continent, in the large rivers and lakes, from New Jersey to this place, particularly in a large pond or lake near Cape Fear River in North Carolina; this pond is almost two miles over, with twelve feet water, notwithstanding which its surface is almost covered with the leaves of this plant; they also abound in Wakaman Lake, near the same river, and in Savannah River at Augusta, and all over East Florida.'

"The tuberous roots, according to Mr. Nuttall, resemble those of the Sweet Potato, and are traversed internally by from five to seven longitudinal cavities. They are found at the depth of from twelve to eighteen inches below the surface of the earth, and are connected by running roots. When fully ripe (which is when the seeds have arrived at maturity) they become, after considerable boiling, as farinaceous, agreeable, and wholesome as the Potato. The leaves are round, and from twelve to eighteen inches in diameter; the flowers are pale yellow; the top-shaped seed-vessel is three or four inches in diameter, and has in its flat top, fifteen or twenty cavities, in which the acorn-like seeds are lodged singly.

"The following notes from Loudon's Encyclopedia, upon the *Nelumbium speciosum*, may be interesting: 'Thunberg says that it is considered as a sacred plant in Japan, and pleasing to their deities, and that the images of their idols were often drawn sitting on its large leaves. The long stalks are there eaten among other pot herbs. Loureiro relates that it abounds in muddy marshes in India and China, and is cultivated in large handsome pots in the gardens and houses of the mandarins; that there is a variety with the flower of pure white, and another with a very beautiful luxuriant flower, having about a hundred large petals, white or rose-colored. Both roots and seeds are esculent, sapid, and wholesome. In China it is called Lieu-wha, and the seeds, and slices of the hairy root, with the kernels of apricots and walnuts, and alternate layers of rice, were

frequently presented to the British ambassador and his suite at breakfast given by some of the principal mandarins. The Chinese have always held this plant in such high value that at length they regarded it as sacred. That character, however, has not limited it to merely ornamental purposes, for the roots are not only served up in summer with rice, but they are also laid up in salt and vinegar for the winter. The seeds are somewhat of the size and form of an acorn, and of a taste more delicate than that of almonds. The ponds are generally covered with it, and exhibit a very beautiful appearance when it is in flower, and the flowers are no less fragrant than handsome. It grows spontaneously in China, and is propagated in the open air with ease, both by the seed and root. It is said that the seeds will keep forty years, vegetate freely, and flower the first year.<sup>1</sup>

"In green-houses the *Nelumbium* should be grown in a tub or large pot, in a rich loamy soil. The pot or tub should be kept full of water all the time the plants are growing, but may be allowed to get dry when the flowering season is over. The plants may be increased by dividing at the root, but it is obtained more readily from seeds, which vegetate freely."

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#### OSAGE ORANGE HEDGES.

BY "OUT WEST."

WE think this subject may be classed among those which can properly, and profitably, be discussed in the *HORTICULTURIST*. While entertaining these views, we have been anxious to see some one give his experience, together with such practical directions for the proper cultivation and training of the Osage Orange as would enable those who are desirous of giving it a trial, an opportunity of doing so. Many have been deterred from entering upon its cultivation, from witnessing the many failures among those who have planted it, and who, after having started, did not understand the after management, so requisite to success. Many very liberal-minded gentlemen have condemned it, merely from witnessing the miserable apologies for hedges to be seen all over the country, wherever it has been introduced. It is to present to such persons, and all others who desire to give it an impartial trial, a few concise and practical directions for its cultivation, that we have been induced to write an article on the subject. It may be proper to remark, before proceeding farther, that we have found it to be perfectly hardy. We have seen it endure 30 degrees below zero, which, we think, will justify us in declaring it hardy enough for all practical purposes. It does get killed back more or less according to the severity of the weather every winter, and sometimes gets killed outright during the first winter after planting; but in the proper place, we will give such directions for protecting the hedge, as will effectually prevent its occurrence.

When the plants can be bought at reasonable rates, we would recommend pur-

chasing them, rather than undertake to raise plants; for it is attended with a great deal of trouble, and often results in failure. For those, however, who are desirous of raising their own plants, we will state two methods of preparing the seed. One is to mix the seed with light, moist soil or sand. We think the latter preferable. Expose it to the frost, that it may be thoroughly frozen, in the same manner that many other kinds of seed are prepared, to secure vegetation. The other is to thoroughly *moisten* the seed with warm water, and *keep it moist*. Place in a tolerably warm room; not too warm, for too much heat causes fermentation. This latter must be carefully guarded against. It is to be avoided in two ways. One by not giving them too much heat, and keeping the temperature as even as possible. The other, by not placing in too large a bulk. The seed should also be frequently stirred during this process. From one or more causes, the seed will not be likely to vegetate evenly. Watch it closely, and assort as often as is deemed necessary. If not convenient to plant them, place in a cooler situation. We think it better to have the soil prepared, that it may be planted immediately. The soil must be in proper condition as to warmth, that the seed may not rot after planting. This is a prolific source of failure with the inexperienced planter. Prepare the soil as you would for different kinds of garden seeds; which means to prepare it *well*. Plant in drills, eighteen or twenty inches apart, and not too thick in the drills. Cultivate well during the summer to insure a healthy and vigorous growth. After the frost has killed the foliage, or rather after vegetation has ceased, the plants can be carefully taken up, and heeled in, in such a position that they will not be exposed to the direct rays of the sun during winter. It will be better to cover them with loose litter of some kind. Almost any thing, excepting fresh horse manure.

The soil, for the reception of the plants in the hedge row, should also receive a preliminary prepartion in the fall. Plow deep and thoroughly, and it will repay tenfold the amount of labor expended. A space of ground, not less than six feet in width, should be devoted to the cultivation of the hedge. In the spring, as soon as is convenient to commence operations, plow the ground thoroughly, but not quite so deep as the previous plowing. Give it a good harrowing to pulverize the soil well, and it will be ready for the reception of the plants. Prepare the plants by cutting off all mutilated roots, and cutting off the tops to within two or three inches of the root, or rather that portion that was near the surface of the ground, during the previous summer's growth. This will be readily identified by the yellowish color of the bark. Have the hedge-row perfectly straight. It will be more satisfactory to yourself, besides adding an inexpressible charm to the appearance of a place, that no care, no matter how assiduously applied, can bestow, if the work has been bunglingly done at the beginning. We wish to call attention particularly to this point of the subject, because it will not only cause vexation, if not attended to at the proper time, and subject your work to the ridicule of the incredulous, who always have an "I told you so" at their tongue's end to apply, whenever from

any cause, (no matter how unavoidable on your part,) that a failure may take place, that did not meet with their special approbation.

The planting will next require your attention. There are three ways that this can be accomplished. First by setting a line, and planting with a dibble. The second by throwing the soil from the line with a spade, to a sufficient depth to admit the roots of the longest plants. Place the top of the plants against the line, and then fill in the dirt, and make it compact by trampling it with the foot. This is rather surer, but is not quite so expeditious as the former. The last is more expeditious than either. A good steel mold-board plow, and steady team, with a good driver, are the requisites to success. Follow in a direct line of the stakes, throwing out the soil to a sufficient depth; place the plants in their proper position; throw in the soil with shovel or spade; press compactly with the foot, and level off that it may present a neat appearance, and the work is done. I should have mentioned before that the plants should be about six inches apart, or one hundred plants to every three rods of ground.

[In many sections of our country hedges have an importance beyond their mere beauty. For a useful hedge, the Osage Orange is one of the best we have. May we not hope that "Out West" will continue the subject, and give our readers his mode of after treatment, which is quite as important as planting, especially while the hedge is in process of formation.—ED.]

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VANDA SUAVIS (*Fragrant Vanda*.)

(See *Frontispiece*.)

BY THE EDITOR.

WE present as a frontispiece this month a very fine engraving of the *Vanda suavis*, copied from Curtis's Botanical Magazine. It was introduced from Java in 1847, and is one of the prettiest as well as one of the most fragrant of this singular class of plants. It belongs to the order of Orchidaceæ, which are popularly called *air plants*. The Vandas grow upon trees, and derive their support chiefly from the atmosphere. When grown under glass, they are usually attached to a piece of wood, cork, or something of that kind. They are also sometimes grown in wire baskets, filled with moss and potsherds, or pieces of charcoal. Some, also, are grown in pots filled with moss and potsherds. During the growing season they require a pretty strong, moist heat, and frequent applications of water. While dormant, they should be kept comparatively dry, and in a low temperature. The Vandas are among the most beautiful and interesting of this tribe of plants, and should be in every collection of orchids. Mr. Van Vorst, of Jersey City, has some very fine specimens in his large collection, which is the best that we have seen.

## JAPANESE TREES.

A FEW days since, while sitting in our office, there walked in a gentleman, with an intelligent face, and frank, pleasant manner, introducing himself as Dr. Hall, of Japan, whom we had for some time well known by reputation. In the course of much pleasant conversation about the climate and productions of that country, he informed us that for the past two years he had resided at Yokohama, and being greatly interested in trees and plants, had, for his own amusement, collected in his garden all of any interest which Japan contained. It being known that he was a buyer, plants were brought him from the interior, from mountain and valley, until his collection was as rich as any botanical collectors could make it, if they had access to every part of the country, which they may not have for years. Expecting to return home this year, he had also collected a large quantity of seeds of trees and plants, many of them unknown either in Europe or this country.

These plants and seeds he had brought with him, except some six Wardian cases yet to arrive, and proposed to place them all in our hands for propagation and culture.

It gave us much pleasure to meet his wishes, and he returned the next day with his collection.

If you have ever seen the eagerness with which a connoisseur in pictures superintends the unpacking of some gems of art, among which he thinks he may possibly find an original of Raphael or Murillo, you will have some idea of the interest with which all, both employers and propagators, surrounded those cases while they were being opened. Among the living plants, and in fine condition, was that beautiful new evergreen, *Thujopsis dolobrata*; then a new species of *Cryptomeria*, with some fine new conifers without name; then fifteen new double-flowering *Cherries*, one of them described by Dr. Hall to be as large as a rose; eight new *Wistarias*, of different sorts, some with variegated foliage, and one with racemes a foot and a half long; seven *Salisburias*, with variegated foliage; the green *Aucuba*, a new *Japan Berberry*, a new *Magnolia*, a dozen *Maké*, the great timber tree of Japan; five new *Hibiscus*, forty-five *Maples*, many of them variegated, and some as drooping in their branches as the Weeping Ash; a weeping *Pyrus japonica*, that, grafted on a large quince or apple, would make a beautiful tree covered with brilliant crimson and scarlet flowers.

There were also four new sorts of *Weigela*, some of them with variegated foliage; seven new *Honeysuckles*; a variegated *Elaeagnus*; three new *Oaks*, one with variegated foliage and leaves a foot long, and another with very curious indented leaves; a new *Chestnut*; six new *Japan Lilies*, different from any thing yet known here; eight new *Columbines* and other herbaceous plants; a variegated, a dwarf, and a giant *Bamboo*, and six new sorts of *Chrysanthemums* of superior beauty; as these plants are *all alive and in good condition*, we hope that another year will enable us to disseminate them.

Among the seeds, which are in fine condition, are a quantity of *Sciadopitys verticillata*, a new Conifer, described by those who have seen it, as being very unique, and possessing unusual beauty; ten distinct sorts of *Retinospora pisifera*, a new evergreen shrub, some of which have variegated foliage; *Pinus Massoniana*, both cones and clean seed; a new variegated Pine; a fine lot of *Thujopsis dolobrata*; *Abies firma*; six new sorts of Conifers; a lot of *Wistaria* seed; a peck or more of the Green *Aucuba*; the Japan Persimmon; seed of new Japan Lilies; new *Acacias*; variegated Camphor Tree; seeds of a tree with variegated leaves, and growing like the poplar; another tree, growing like the poplar, with variegated leaf and yellow Hibiscus-like flower; a new weeping tree, with white flowers; a new *Juniper*, new *Magnolias*, *Maples*, and *Chrysanthemums*; a quantity of *Maké*, the great timber tree of Japan; a quantity of variegated *Ginko* tree; a new *Fern*; a new *Primrose*, whose flowers are produced in an upright cluster, the shape of a pagoda; and a large number of other tree and shrub seeds, described by Dr. Hall as unlike any thing we have here, and as possessing great beauty.

To name these, we shall have to call in the aid of our friend Dr. Torrey, as soon as their lineaments shall have obtained by growth sufficient distinctness to enable him to pronounce upon them. Dr. Hall speaks of the great variety of trees in Japan with variegated leaves, and which are among these. They will give a new beauty to our lawns, and be more permanent than flowers. It gives us much pleasure to speak at this early period of the arrival of these plants and seeds in this country, both because we wish the horticultural world to know how much it is indebted to the enterprise and plant love of Dr. Hall, and because a collection so rich and so varied has never been obtained from any country, even by the best English collectors, while the similarity of the Japanese climate to our own renders this collection of peculiar value. The Wardian cases yet to arrive, contain Conifers and other rare plants, the character of which will be announced as soon as opened.

PARSONS &amp; Co.

Flushing, March 20, 1862.

[Just as we were finishing our last form, "there walked in a gentleman, with an intelligent face, and frank, pleasant manner," but quite out of breath from his efforts to reach our elevated sanctum, which, the reader should know, is so high that we have "The World" just beneath our feet. The first glance convinced us that something good had happened. After reading the above, the reader can judge whether we were not right. So much horticultural treasure is almost enough to turn one's head. So many fine things have never before been introduced at one time. Our English brethren pride themselves, and justly, on their enterprise in collecting rare and beautiful plants from all parts of the world; we have done comparatively nothing. Let us hope that the splendid collection now placed in the hands of the Messrs. Parsons will, in this respect, mark a new era in our history. We shall, as soon as possible, examine this collection, and lay the result before our readers.—ED.]

# EDITOR'S TABLE.

## To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 237 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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RICHARDSON'S SEEDLING DAHLIAS.—A visit to Mr. Henderson's propagating house shows the young plants of these seedlings to be coming on finely. Having seen them for two years past, and selected them for names, we are prepared to say that they compose the finest lot of seedling Dahlias we have ever seen. They ought to be in every garden.

EATING NATIVE GRAPES.—An issue having been made on this point, testimony is now in order. The following is from Mr. Mottier, of Cincinnati, whose large experience gives a direct value to his testimony :

"I was quite surprised at the account of the effect of eating freely of the Catawba grape about Cincinnati, causing violent deaths, &c. I have been for thirty-one years in the neighborhood of Cincinnati, in the vineyard business, and have had from eight to twenty-four hands, male and female, at the vintage every year for twenty-eight years. I never knew of any such bad effects. On the contrary, some feeble female would improve very much in health and appetite. I have always known our native grapes as being the healthiest fruit, when ripe, that any one could eat. I have been in market in Cincinnati, and have heard people, hundreds of times, inquiring for ripe Catawbas for sick people.

"I have been to see an old physician of over twenty-five years' practice in Cincinnati and surrounding neighborhood, to ascertain whether he had heard of any deaths or bad effects from the eating of Catawba grapes. He said positively he never did. I pointed out the article of Dr. J. S. Houghton, of Philadelphia, on native grapes, in the January number of the HORTICULTURIST. He promised that he would reply to it soon.

"I recollect of an old German, about forty years ago, (I lived then near Vevay, Indiana, neighbor to this man.) One season he was very sick of fever; the doctor could not help him; he said to me that he had made up his mind that he must die. He had a little vineyard close to his house of the Cape grape; he crawled out to it, sat between two stocks, ate a few grapes, and had hard work to get back to the house. Next day he went back and ate more, and so on for ten days, eating more and more every day. By that time he was able to get on his horse and ride two miles. So much for eating native grapes."

This confirms what we have already said. We shall be glad to hear from your friend, the physician, Mr. Mottier.

THE DOUBLE ZINNIA.—There is a little diversity of opinion in regard to the merits of this flower. We must record our opinion in its favor. Some of the seed sent out may have been mixed with single varieties, and thus produced disappointment. We were so fortunate as to have some seed sent to us last spring



by Mr. Bliss, all of which produced double flowers, not a few of them being quite as perfect as the fine drawing we gave. They were planted very late, however, and produced no seed. We have thought the late planting may have had something to do with the perfection of the bloom. The seeds, indeed, were not put in the ground till July, having been *very carefully* mislaid. We tried to get others, but could not, and planted these with little hope that they would bloom, but were

most agreeably disappointed. We mean to repeat the experiment of late planting. It should be known that the Double Zinnia opens with a single row of petals, the filling up being an after process. We mention this, because a friend of ours, who brought some of the seed from Europe and planted them in his greenhouse, on seeing a few flowers open single, as he supposed, threw away his whole collection, embracing nearly a hundred plants, which had been carefully potted off. In addition to our own plants, we saw many fine blooms of the Double Zinnia in different places during the last season. We do not hesitate to recommend all our readers to grow it. We again present our engraving of it, for the benefit of those who did not see it last year.

CATALOGUES, ETC., RECEIVED.

*J. M. Thorburn & Co.*, 15 John Street, New York.—Descriptive Catalogue of Flower Seeds, with practical Directions for their Culture and Treatment. Appended is also a large and choice List of French Hybrid Gladiolus. 1862.

*Gardner Goldsmith & Co.*, Indianapolis, Indiana.—Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Flowers, &c.

*J. A. Bruce & Co.*, Hamilton, Canada West.—Descriptive Catalogue of Seeds for the Farm, the Kitchen Garden, and the Flower Garden; also of Culinary Roots, and a choice Collection of Flowering Bulbs for Spring Planting. Garden Implements, Fruit Trees, Shrubs, &c.

*The Journal of the Illinois State Agricultural Society*, Vol. i., No. 1.—This is a move in the right direction. Every state Society should preserve a record of its doings, either in the form of a Journal or in a volume of Transactions. The present Journal contains the Constitution of the Society, a list of prizes, and a number of valuable Essays.

*W. H. Loomis*, Woodlawn Green-house and Nurseries, 189 Virginia Avenue, Indianapolis, Ind.—Descriptive Catalogue of Grapes and other Fruits, with full Directions for preparing the ground for their reception, planting, etc.—We have to thank Mr. Loomis for an appreciative notice of the HORTICULTURIST. The fact that it was not solicited is the more complimentary to him and to us. Mr. Loomis seems to understand, that the more good horticultural works are read, the more trees and plants will be sold. Nurserymen would promote their own interests by giving in their catalogues a list of the best horticultural periodicals.

*Geo. W. Campbell*, Delaware, Ohio.—Reduced Price List of Grape Vines, &c.

*John W. Bailey*, Plattsburgh, Clinton Co., N. Y.—Periodical and Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale at the Plattsburgh Nurseries.

*Andrew Bridgeman*, 878 Broadway, New York.—Descriptive Catalogue of new and select Bedding Plants, Roses, Dahlias, Verbenas, Petunias, &c.

*Dailedouze & Zeller*, Yates and Myrtle Avenues, Brooklyn, L. I.—Catalogue of Roses, Fruit Trees, Vines, &c.

## Correspondence.

Mr. P. B. MEAD—*Sir* :—Will you please to state in the HORTICULTURIST what is the legal postage thereof?

What native grapes are worthy of cultivation where the European varieties will thrive?

Which are the twelve best European grapes, as to flavor and productiveness, in the order of their excellence? Am I right in naming Black Hamburgh, Chasselas de Fontainebleau, Royal Muscadine, Grizzly Frontignan, White Muscat of Alexandria, Sweetwater (Dutch), and Black July, as seven of the best?

Name the order and time of ripening of such twelve in the cold grapery. In this particular, nursery catalogues are much at fault.

Name such twelve in the order of their hardiness, and name the twelve hardest European grapes in the order of their hardiness and of their excellence.

Are the native grapes, August Coral and Columbian Muscat, (Prince,) worthy of cultivation by the side of the Delaware, Diana, Concord, and Hartford Prolific?

INQUIRER.

[The legal postage of the HORTICULTURIST is 18 cents per annum, if paid quarterly in advance, and no postmaster has a right to charge more.

We think the Delaware and Diana worthy of cultivation under the circumstances you name. We could add two or three others not so well known, if we understand your question aright.

According to our taste, the following are the best 12 European grapes: Muscat of Alexandria, Cannon Hall Muscat, Chasselas Musqué, Grizzly Frontignan, Black Frontignan, White Frontignan, Chasselas de Fontainebleau, Royal Muscadine, Black Hamburgh, Muscat Hamburgh, Black Prince, Esperione. You will perceive that we have neither the Sweetwater nor the Black July in our list. We can find no place for them in a list of twelve for *quality*; but for earliness they have their value. We could vary this list without violence to our own taste.

The above will ripen in the grapery about as follows, though something will depend upon their position in the house: Chasselas de Fontainebleau, Royal Muscadine, Chasselas Musqué, White Frontignan, Grizzly Frontignan, Black Hamburgh, Muscat Hamburgh, Esperione, Black Prince, Black Frontignan, Muscat of Alexandria, Cannon Hall Muscat.

In the order of hardiness, the Chasselas class would be first, the Hamburgh class second, the Frontignan class third, and the Muscat class last. Some of the hardest European grapes are not mentioned in the above list. We may mention among these the Black July, the Sweetwater, the Riesling, the White Lisbon, &c. In speaking of hardiness, reference is had altogether to open air culture; we will add, that it is only under the most favorable circumstances of exposure, shelter, &c., that an occasional crop can be got from these. For a few years some of them

do tolerably well; but the experiment of growing foreign grapes in the open air has been so often tried by skillful and experienced men, with such uniform results, as to compel us to accept the conclusion that they are not adapted to our climate. Besides, those that do succeed occasionally in favorable situations, are inferior to our best native grapes. If you contemplate growing the foreign grape in the open air, we advise you to make a long pause before embarking in the enterprise. Select our best natives for the open air, and grow the foreign kinds under glass. Such grapes as the Delaware, Diana, Rebecca, Manhattan, Anna, Catawba, and a few others, when grown where they can *ripen fully*, will satisfy a very nice taste. There are also three new grapes to be sent out which will take their place among the best.

The August Coral is not as good as the Delaware or Diana. The Columbian Muscat we have not tested. If you will let us know precisely your location and exposure, we have no doubt of being able to make out a choice list of grapes for you, though it may prove to be small.—[*Ed.*]

EDITOR OF THE HORTICULTURIST—*Dear Sir:*—During the early part of the past summer I had a very fine bed of Wilson's Albany Strawberries, containing about six square rods of ground, which produced nearly seven bushels of berries, (an enormous yield, I should judge,) but immediately after bearing, the plants began to die out, and have continued to do so, till there is not probably one in a hundred left. On examination, I find that the plants are infested with worms, of from one eighth to three quarters of an inch long, and of the diameter of a pin, and in some cases of a knitting needle.

Now what shall I do to get rid of them? I have about an acre of plants growing near them, and I am fearful that the pest will spread to them. Is it usual for strawberries to be thus infested? I have never read a word from any strawberry grower concerning them, and until recently did not suspect that such an enemy was at hand.

My ground was well manured from a cow-stable, and is rather low, so that it is not much affected by drought. It consists of sand, which will produce little or nothing without manure. I would also state that another field of the same plants, on the other side of the city, and five miles distant, on dry sandy land, without manure, have been injured in the same way.

*Chicago, Ill.*

INQUIRER.

[The above, with several other letters of inquiry, was mislaid, or it would have been sooner answered. We suspect that your strawberries were planted on land recently in sod, and that they have been attacked by the wire worm, which is very apt to be the case under such circumstances, though, in our experience only to a limited extent. In land that has been long in sod, the wire worm often accumulates in large numbers. If we are right in our conjecture, there is little danger to your other plants, unless they are growing in sod land. A good dress-

ing of lime and ashes is the best remedy we can suggest. Apply the lime early this spring, and as soon as it has been washed in by a good rain, put on the ashes.—ED.]

MR. MEAD.—Please tell us in your April number the manner of becoming a member to the "American Pomological Society." Must he be able to pronounce correctly the names of all the French pears? If so, I could not get in. Please say, also, the plan or arrangement for admitting outsiders, for I am desirous to attend and hear the discussions.

Very truly yours,

Provincetown, Mass., March 12, 1862.

RUFUS CONANT, JR.

[Doubtless many others would be glad to have the same kind of information. If you send a couple of dollars to President Wilder, or Treasurer James, he will return you a parchment, giving you all the privileges of membership for two years. These privileges consist in free access to all the meetings, a copy of the published proceedings, the opportunity of making some clever acquaintances, etc. The test you allude to is not applied; it would make the society exceedingly slim and exclusive, and destroy its usefulness. They have not got to that yet! The only "outsiders" admitted are delegates from other societies, and members of the press. All others must "fork over" the "two." We think we have made it plain to you how to become a member.—ED.]

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BROOKLYN HORTICULTURAL SOCIETY.

THE Society met at the Athenæum, February 25th, President Degrauw in the chair.

The meeting was opened with remarks by Mr. Mead on the objects exhibited. The three following questions were asked by a lady:

1. What is the botanical name of the Vinegar Plant? Is the plant easily obtained, and how should it be cultivated?

Mr. Mead said the object referred to was not a plant in the common acceptation of that term. What has been called the Vinegar Plant by the newspapers is better known as the "mother of vinegar." Its nature and action were explained.

2. How should the Perpetual Tree Carnation be cultivated?

The Tree Carnation should be cultivated like the common Carnation in pots. They may be said to bloom throughout the year. Should not be cramped for room. With an average temperature of about 60° they will do well, but more heat will be necessary if early winter blooms are wanted.

Mr. Zeller.—Keep them in a good soil, as much as possible from moist earth. They should not be kept too warm or too damp. From 5° to 10° above freezing will do. If plenty of flowers are wanted, they should be kept warmer.

Mr. Fuller asked if an annual supply of plants was not better; to which Mr. Zeller responded, Yes.

Mr. Mead asked if he made his plants from cuttings or layers.

Mr. Zeller replied, From cuttings.

Mr. Mead.—At what time do you put them down?

Mr. Zeller.—From February to May.

Mr. Mead.—Have you tried them in the fall?

Mr. Zeller.—Yes, sir, very often.

Mr. Mead.—With what success?

Mr. Zeller.—Very bad.

Mr. Mead.—My experience has been somewhat different, for I have been most successful with cuttings put in in the fall. How do you account for your want of success in the fall?

Mr. Zeller.—The plants at that time are more woody, and very hard to strike. The young shoots do better in the month of May.

Mr. Mead.—How do you treat your cuttings?

Mr. Zeller.—Put them out of doors, and treat them as other cuttings.

Mr. Mead.—At what time do you make your layers?

Mr. Zeller.—From June to July.

Mr. McGahry.—Has not the soil something to do with the Carnation? Will Mr. Mead explain?

Mr. Mead.—The soil has much to do with the successful growth of the plant. A good fresh virgin soil, or the top spit from an old pasture lot, is best for the Carnation. There is no soil that can be made artificially that is so good. A little charcoal or sand, and some old manure, may be added. Carnations grown in such soil, if well cared for, can not fail to do well.

Mr. McGahry.—Are fertilizers useful?

Mr. Mead.—Do not think artificial fertilizers are called for at all in such a soil. An occasional application of manure water will hasten the bloom, but is apt to spoil the color.

3. Is the Antarctic Forget-me-not, (*Myosotidium nobile*), grown here as a house plant?

Mr. Mead.—It is, and can be purchased of our florists.

The following questions were asked by a member:

4. Do fruit trees, when they are trained, yield more and better fruit than when they are grown as standards or dwarfs?

Mr. Mead.—All trees that are properly pruned, may be called trained trees. The question probably refers to espaliers, and it may be doubted whether these in our climate, yield more or better fruit than well-grown standards. In some countries, where protection is needed, or there is a deficiency of sun, espaliers, no doubt, produce the best fruit; but there is no necessity for growing fruit on walls here.

5. Do budded trees produce their fruit sooner than grafted ones ?

Mr. Mead.—It should have been stated what kinds of fruit trees are referred to. Much depends on the kind of budding and the kind of tree. In many cases a graft will produce fruit sooner than a bud.

6. Are seedling fruit trees less liable to disease and decay than budded or grafted ones ?

Mr. Mead.—As a general thing, yes; but a good deal depends upon circumstances. A healthy graft worked on a healthy seedling stock will make a healthy tree, if placed in proper conditions. Have no faith in fruit trees running out any more than in the human race running out. Both are subject to similar physical laws, an observance of which is necessary to their well being. The individuals of both alike become a prey to disease and death, but the race is continued.

7. Is the Casuarina Indica (an Australian Bamboo) grown here ?

Mr. Mead.—The plant is grown here, but is not easy to be had.

8. What is known here of the "Gossypium arboreum," or Perennial Tree Cotton described by Mr. Kendall ?

Mr. Mead.—Very little is known of it here. We have to depend upon Mr. Kendall for most of what we know. Parties in Pennsylvania, and it may be elsewhere, are experimenting with it, but the time has been too short to have produced any reliable results. It is probable it will grow in some parts of the country.

9. Is the new English Strawberry, "Frogmore Late Pine," yet introduced here ? It is said to possess unrivaled qualities.

Mr. Mead.—This is not the only Strawberry which is said to possess unrivaled qualities. Do not remember at the moment of having seen it in our catalogues. The greater portion of these foreign strawberries, though possessing great excellence in Europe, deteriorate when changed to our climate, and are unfitted for field culture. The Triomphe de Gand is one of the very few exceptions. This is an immediate cross with one of our native varieties, which will account for its success in a measure. This, Mr. Chairman, (taking up a wooden box on the table,) looks exceedingly like a flower-pot, but it is really a fruit box, for strawberries and other small fruits, and is one of the prettiest and neatest things of the kind I have seen. They are very cheap, too, the price being only two dollars a gross. It looks as if it might make a good flower pot for some things, and I purpose trying it. It seems, however, liable to one casualty, whether used as a flower pot or a fruit box : I think the bottom will be apt to fall out. This case, sent here by Mr. Eberhard, has some of the merits of the Waltonian case as respects bottom heat ; but it can be described on some future evening, the time having arrived for our regular subject, "Spring Pruning." Mr. Fuller is always ready with a sharp knife to cut any body or any thing ; perhaps he will tell us something about spring pruning.

Mr. Fuller,—There has been a call from strawberry growers for a basket to

sell with the fruit. This is a good one. Few English strawberries have succeeded here. Triomphe de Gand is a Belgian variety. All foreign varieties are from American varieties. These were sent wild from Virginia, and have been reproduced there. The Belgian varieties stand our climate much better.

Mr. Fuller was asked, "How do you prune a grape so as to have it grow a hundred years without increasing in size?"

Mr. Fuller.—I know where the question comes from, and the spirit in which it comes. The trunk will increase in size, but the vine will not require more room.

[Mr. Fuller then read an essay on Pruning. We have no copy of it.—Ed.]

Mr. Fuller.—It is well known that vines in Europe 18 inches high are 50 years old. They are cut down to one eye. The vines are not trained, but the branches hang over the head.

Question.—Do your remarks apply to the Isabella and Catawba?

Mr. Fuller.—No. We have not had experience enough in this country to know what we can do. Some varieties we can cut clear down; others we prune to a well-developed bud. I would leave two good buds on the Isabella. A grape vine is not worth having unless it has a going over once a-week. The best way is to train to two arms.

Mr. Cavanach.—I have a few remarks to make, and will read them. [We have no copy of these remarks.—Ed.]

At the close, Mr. McGahry said, By fall pruning, in a short time you will have no vines; the winter does its own pruning. I have pruned twenty-five vines this season in this city, and have not left one scientifically pruned. I found twelve years' bark on some, with numerous insects. Clear off all the old bark, which gives the vines a youthful appearance, and gets rid of the insects. Never get your vines pruned in the fall. Would prune now till the first week in June.

Mr. Fuller.—Both spring and fall pruning is logical. In some countries they prune altogether in the fall. The roots continue to absorb after the leaves fall. You should never prune so close in the fall, but cut again in the spring. We prune in the fall for cuttings. I would not, as a rule, prune in the fall in Brooklyn. There is hardly a grape that would not pay to lay down. Strawberries and raspberries do better by being covered in winter. A plant may lay in solid ice all winter and not be injured, if the water runs off when it melts.

After some further conversation the Society adjourned, the subject of Pruning being continued.

The Society met again March 11th, President Degrauw in the chair.

Mr. Mead congratulated the Society on the brilliant display of flowers and plants on the table. Mrs. Humphries presented a fine collection of plants and a very beautiful floral basket. Among the plants were two fine seedling Cinerarias. Mr. Chamberlain exhibited a number of his moss baskets, consisting of Peaches, Cherries, Vines, Verbenas, &c., the peaches and cherries being well furnished with fruit buds. The President exhibited fine specimens of Azalias and Hyacinths.

Mr. Chamberlain also exhibited a noble specimen of the Providence Pine, weighing seven and a half pounds. Mrs. Humphries exhibited also a Wardian case, the plants being very tastefully disposed. Mr. Eberhard exhibited a new pattern of the Waltonian case. Mr. Weir exhibited a superb lot of Camellia blooms.

The following questions were asked :

**1. What is the best variety of Rose to be used as a weeper?**

Mr. Mead.—I have never seen but one true weeping variety of the rose. It is in the possession of Mr. Burgess. He says it is called the Willison's Weeper, and was raised in Yorkshire. It should be worked six or seven feet high.

**2. What as a pyramid ?**

I hardly know how to understand this question. A pillar Rose is probably meant. If so, I would select a strong growing Hybrid Perpetual.

Mr. Burgess suggested the Baronne Prevost.

Mr. Fuller.—It is not easy to select one, where there are so many.

Mr. Bridgeman.—The strong growers are the best. Weak growers would not be likely to attain sufficient height to correspond with the others. It is a very pretty method of growing Roses.

**3. What is considered the best white Rose for cemetery lots ?**

Mr. Mead.—There are only two or three among the Hybrid Perpetuals, and hardly one pure white. Mrs. Rivers is one of the best, but difficult to get true. In a well-protected lot I would select from among the Teas and Noisettes, and cover during the winter.

**4. It is stated that the seeds of some varieties of flowers, if they be kept for several years will produce blooms larger and more double than if planted the season after they ripen. If this be correct, what varieties are they ?**

Mr. Mead.—There are only a few, and the common Balsam or Lady Slipper is one of them. If kept a year or two it is more likely to come double than if sown when freshly gathered. I have kept Balsam seed more than ten years. How much longer it would keep I do not know.

Mr. Bridgeman.—Most flower seeds are injured by long keeping ; the germs are apt to be destroyed. In paper bags exposed to the atmosphere is a better way to keep them than to put them in closed vessels. If put in bottles or tight boxes, they are sometimes likely to germinate there.

Mr. Burgess.—I received a prize for a melon grown from seed kept thirteen years in a piece of cartridge paper. It was a Cantaloupe Melon.

Mr. Bridgeman.—Mr. Thomas Hogg, who has had a large experience, as well as his father before him, says it is a mistake to seal up seeds to preserve them or send them to a distance. The best way is to pour honey over them. Seeds that could not be brought from China in any other way, have been so treated, and brought successfully.

**5.—Why is it that some Rose bushes have pericarps in abundance after flowering, while others have none ?**

Mr. Mead.—I do not know of any rose that does not have a pericarp. It may not always swell and produce seed, but under proper conditions it will do so. Some kinds of roses set them more abundantly than others. This is determined in a great measure by the fulness of the rose, or the abundance of its petals. The circumstances of culture also have their influence.

Mr. Park.—Three quarters of our Camellias do not produce seed. I think there are roses so full they do not produce seed.

Mr. Fuller.—All double flowers are deformities and monstrosities, and not natural.

Mr. Mead.—The fullest rose we have would produce seed, if grown for a while in a poor soil; while in the rich soil, used in the green-house, it might fail to do so.

6. Has the Delaware grape been grown under glass, and with what results?

Mr. Mead.—I have known it in one or two instances to be grown under glass, and with the best results. It is always grown with the best results, in doors or out.

Mr. Fuller.—If the Delaware was grown under glass as well as out of doors, I should doubt its being a native.

[Then we should, for the same reason, have to doubt the nativity of the Isabella, Diana, and Catawba, but especially the last; for they have been for many years, and are still, grown under glass with the best results. We know of graperies that have for ten or more years past been pretty equally divided between the Black Hamburgh and the Catawba.—ED.]

7. When is the best time to plant evergreens, and should preference be given to small trees?

Mr. Mead.—If confined to one period, I would plant in the month of August or the beginning of September. Have planted at other seasons with good success. Would give the preference to small trees; by which, I do not mean trees a foot high, but approaching my own height, which is a very good height, Mr. Chairman.

Mr. Burgess.—I should plant from the tenth to the twentieth of June. Never lost a plant from thousands.

8. Which are the best varieties of pears for city yards, for growing against the fences, or on espaliers?

Mr. Mead.—I should not select a dozen kinds for a dozen trees, but select three or four kinds, such as Dearborn's Seedling, Belle Lucrative, Seckel, &c.

Mr. Fuller.—I would plant all of one kind, the Duchesse d'Angoulême.

9. I have room for six grape vines. What kinds shall I plant to receive the best return, and at what time shall I plant them?

Mr. Mead.—A good selection would be 3 Delawares, 1 Rebecca, 1 Hartford Prolific, 1 Concord. [On further thought we would replace the Hartford by the Creveling for the early kind.—ED.]

Mr. Fuller.—I would make up the list all of Delawares.

Mr. Mead.—They should be planted as early this spring as possible.

10. Would the fruitfulness of blackberries, raspberries, gooseberries, and currants, be increased by bending the branches down, or training them on a fence, as the grape vine or pears are frequently done?

Mr. Mead.—They are abundantly fruitful without any trouble of that kind. Currants, if at all well grown, are literally covered with their fruit. There is nothing to be gained by growing blackberries and raspberries as espaliers.

Mr. Burgess.—Last year I got rid of the acid of currants by leaving them on till they were ripe.

11. If the gooseberry were trained to a tree shape, would it prevent mildew?

Mr. Mead.—Do not think it would.

12. Is salt hay or grass the best mulch for the gooseberry? Can the large English kinds be grown here?

Mr. Mead.—Salt hay and grass are both considered good mulches, but they will neither of them prevent the mildew. The large English kinds can be grown here, but they mildew badly.

Mr. Fuller.—The best preventive is to plant the Houghton Seedling, which does not mildew.

The next question was sent from Greenport, by Mr. J. H. Jackson.

13. If not contrary to your rules, may I ask you to inquire of your society, at the next meeting, *what are the best varieties of pears to plant for market purposes*—say 1000 trees—at what distances should they be planted each way, and any information besides the members may give. No doubt there are many others who wish the same information, and some of your practical men can tell me through the reports of your meeting.

Mr. Mead.—A pretty extensive question this. I should not like to hazard my reputation by answering it impromptu.

It was passed to the next meeting.

14. Can the hardy Yuccas be easily grown from seed, and are there any varieties with red flowers?

Mr. Mead.—The Yucca can be grown from seed, but it does not vegetate very rapidly. I know of none with red flowers.

Mr. Burgess.—I have seen plenty of seedlings come up around large plants in England.

Mr. Fuller.—I raised ten thousand seedlings for a double and a red flower. I had all the varieties; none were distinct enough to propagate. There was neither a double nor a red flower.

Mr. Cavanach.—The seed will come up here. I have an example in my garden.

15. What is the botanical name of the Chinese tallow tree, and will it grow here in the open ground?

Mr. Fuller.—It is called Stillingia.

16. Can the apricot or nectarine be grown in city yards without protection? and, if so, what are the best varieties of each for that purpose?

Mr. Mead.—The Apricot and Nectarine can be grown in city yards. The Boston is one of the best, for hardiness. The Early Violet and Newington are also good.

17. Is it a generally received opinion among pomologists that fruit grown larger than its natural size, is deficient in flavor?

Mr. Mead.—There is a good deal of ingenuity shown, Mr. Chairman, in framing some of these questions. Some of them are well calculated to bring a man out. I will say in answer, that an overgrown specimen of fruit is generally considered coarse and deficient in flavor.

18. In pruning a vine trained upon an arbor, how many eyes should be left if it be pruned in the spring?

Mr. Burgess.—I recommend the person asking that question to employ a practical gardener.

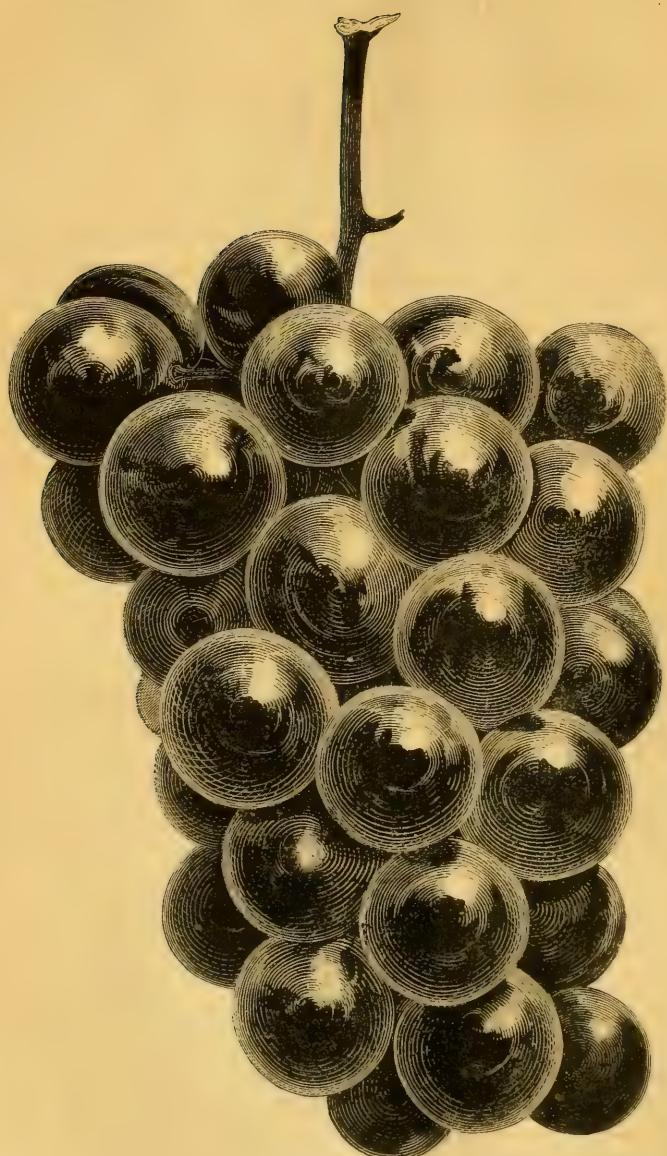
Mr. Mead.—This question naturally leads us to the subject of the evening's discussion. Whether I pruned in the autumn or in the spring, I would leave at least three buds to a spur; the lower bud for the purpose of making a new cane, the middle bud to be rubbed out, and the third bud for producing the fruit. The practice is to cut down to a single bud. The reason for leaving three buds is the simple fact that the third, fourth, fifth, or sixth bud will produce larger and better fruit than the first or second. (This mode of pruning was illustrated on one of Mr. Chamberlain's vines.)

Mr. Cavanach.—I think two eyes much better. Mr. Fuller pursues this system. Pruning to three eyes will make the wood too long; the second year will raise the wood about five to six inches above the main wood.

Mr. Mead.—So far as mere appearances are concerned, it does not matter whether the spur is one or five inches long. A spur pruned vine is not a beautiful object; at best it looks like an Irishman's shillalah. I spoke of the three eyes because it is a fact that we can get better fruit from the third or fourth eye than we can from the first or second. The spur lengthens this way no faster than it does by pruning to two eyes; and if it did, it would not be a difficult matter to produce a new spur. I should not hesitate to cut the largest vine on this island down to within a foot of the ground, for I should have the certainty of getting a multitude of shoots. Have done this repeatedly. The shoots thus produced are barren, and will bear no fruit till the second year. (He then explained how this barren wood could, by pinching in and causing a bud to break, be converted into fruitful wood the first year.)

After some further talk it was determined to omit the miscellaneous business at the next meeting, and continue the subject of Spring Pruning.





ROGER'S HYBRID, No. 4.

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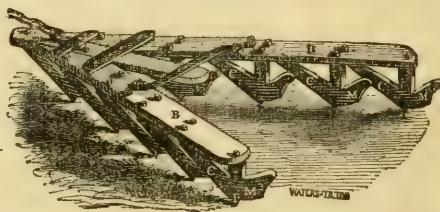
Hints on Grape Culture.—XV.

UR last article was devoted mainly to the cultivation of crops between the rows of vines. The present will treat chiefly of training. It fortunately happens that the training of the vine during the first year is a matter of much simplicity, free from difficult mechanical manipulations, making no extraordinary demands upon our knowledge of vegetable physiology, and requiring only a little attention, and the exercise of ordinary intelligence. Some knowledge of vegetable laws would render the operations less tedious and infinitely more interesting; but we shall describe the mechanical operations so plainly that "none need go astray."

We will suppose the vines to have been pruned down to two or three buds, as already directed. If a trellis has not been put up, a stake four or five feet long must be placed by each vine; for the vines must under no circumstances be allowed to grow on the ground. It is a very common practice to allow them to do so; but the practice is so wholly bad, that we trust it will find no followers among those who read these articles. Place a stake, then, about two inches from each vine, and on the north side of it, and not on the south, as we have sometimes seen. The pruning and staking having been done, the next operation will be the plowing. This will be performed differently by different individuals, according as they have a system of their own, and are "set in their ways." A good plan is to set the plow from twelve to fifteen inches from the vines, and turn the furrow from

them. In turning this furrow, the plow must be run sufficiently shallow to avoid injuring the roots; for no matter what may be conceded to "root pruning" when the vines have acquired age, we insist that now at least they shall not be disturbed. But to proceed. In making the return furrow, lay it against the first, so as to form a ridge. This return furrow may be made deeper than the first: the depth of the furrows should be increased with the distance from the vines. Turn a furrow from the next row of vines in the manner first described, and lay the return furrow against it. If we have been understood, the space between two rows of vines will be laid up in ridges; these ridges are now to be broken down by running the plow through the middle of each, which will make the ground level again, as it should be.

The next operation will be harrowing. The common form of harrow we do not esteem best adapted to the purpose, the objection being to the form of the teeth. These should be somewhat in the form of cultivator teeth. The best implement that we have seen is Share's coulter harrow, of which we give an engraving; it



pulverizes the soil without compacting it to the degree that the common harrow does. We have several times represented to the proprietors of this harrow, (Messrs. Haines & Pell,) the necessity for making one of a smaller size, to be worked by one horse, and we understand that they have concluded to do so. It would in that form be still better adapted to the vineyard. When the soil is harrowed, the crop to be grown between the rows may be put in, under the conditions mentioned in our last.

Let us now turn to the vines. As soon as the new shoots have grown about four inches, select the strongest, and break the others off. If each grows equally strong, which is not often the case, select the lowest, as it is desirable to have the new shoot as low down as possible. In June the remains of the old wood should be pruned off close to the new wood; it should be cut at an angle of about  $45^{\circ}$ . In this way the new wood will grow over and cover the wound, and the trunk of the vine will grow straight. The new shoot must be tied up from the beginning, and the tying repeated at intervals during the season. After having made a growth of four or five feet, the young shoot may, indeed, be left to grow free, but if the stake be sufficiently high, it is better to keep the growing shoot tied up.

The object of the first year's training is to obtain a single cane of stout, well-

ripened wood. To secure this, we should aim, as far as possible, to prevent the vine from wasting its energies in the formation of superfluous parts. One very important means to this end is the suppression of the lateral shoots, and thus directing the flow of the sap mainly in one channel. To suppress these laterals entirely, however, would result in disaster, by causing the buds to break; this, in the case of bearing wood, as will hereafter appear, would result in the loss of the crop the following year. The laterals perform an important part in the economy of the vine; we have simply to guide and control their action so as to secure more fully and certainly the object in view. The physiology of the subject will be treated of hereafter; at present we shall only describe the mechanical operations to be observed. As soon as two leaves have been formed, the lateral must be pinched in to one leaf, leaving above this leaf about an inch of the green wood. This should be done before the second leaf has attained any considerable size; for example, when about the size of a twenty-five cent piece. The leaf left on the lateral will increase in size pretty fast, and the bud at its axil will rapidly develop, and finally break or grow. On old vines, this bud often produces fruit, but it never ripens in the open air. When this bud has made two leaves, the lateral must be again pinched in, so as to leave one leaf on the shoot made from the bud just described. There will now be two leaves on the lateral; one below the first pinching, and the other below the second. The second leaf will increase in size faster than the first did, and will grow larger; both leaves, indeed, will be larger than they would have been if the lateral had not been pinched in, and we may add, that in all such cases the leaf function is consequently performed more perfectly. The bud at the axil of the second leaf will be developed, and put forth a new shoot in the manner already described. If the vine has been growing vigorously, this second bud will break before the season has become far advanced, and the lateral must then be pinched in again precisely as above described; otherwise it may be left to grow as it will. We have used the word lateral in the singular number, but it will be understood that the laterals are to be all treated alike. If, through negligence, the laterals should not have been pinched in as described, they will have got to be of some size by mid season; and in this case two or three leaves should be left on, for with the size of the lateral increases the danger of bursting the bud at its base.

If, from late planting, shortness of season, or any similar cause, it is apprehended that the wood will not mature, the process of ripening may be hastened by pinching in the end of the vine, or by simply breaking down (not off) a foot or more of the end, leaving the part broken hanging to the vine. After the middle of September the vine will need no other care in regard to training. All through the season, special care must be taken that the leaves receive no injury by handling or otherwise. The ground must be stirred from time to time, and kept free from weeds. One of the best implements for this purpose is the horse-hoe, the weeding immediately around the vines being finished with the hand-hoe.

When the wood is thoroughly ripe, and the leaves have dropped of their own accord, the vines may be pruned. It will be necessary to reduce them again to three eyes, cutting about two inches above the third eye. The vines will now be ready to cover, if this should be deemed necessary ; in some localities it has important advantages, and is really less laborious than at first sight would appear. Nothing more is necessary than to throw a little light mould around the vines in the form of a hillock. A little cedar or other brush thrown over them will answer the same purpose, but care must be taken not to form a harbor for mice. If the vineyard has been made in a clay soil, it will be benefited by fall plowing, which must be done as already described, except that the ground should not be harrowed, but left rough. This will complete the care of the vineyard during the first year.

The method of increasing the size of the cane, forming fruit wood during the first season, and matters of a similar nature, are reserved for a future occasion.

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#### LANDSCAPE ADORNMENT.—No. XXIII. ROADS, No. 4.

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 87 Park Row, New York.

THERE is, perhaps, as much skill to be displayed in the location and construction of an ornamental road as in any other branch of landscape adornment, and there is precisely that knowledge wanted that can define the line where all the essential requirements of a good road can be had without going beyond a fair expense. Among many examples of road-making that can be mentioned, no motive of economy could be urged as a reason for not producing the best results, but simply a total ignorance of all that is necessary in the execution of such works. The requirements of a good road are, a hard, smooth surface, that can not be cut up in any weather, whose drainage is perfect, and which may be kept in high order with the least amount of labor. Such a road, if tastefully aligned and graded, is what one naturally expects to see on entering the inclosure of a place that pretends to any ornamental display.

There are many sections of our country, however, in which it is impossible to procure the needful materials to make such roads, and where one must be content with such road coverings as can be had, or with the natural surface of the earth. Broken stone and gravel are not within the reach of all. But whether a road be designed for a covering or not, the same principles of construction should be observed ; the same preparation of the earth road is necessary, whether the travelling be done on the earth surface, on the broken stone covering, or on a covering of any other materials.

Perhaps the most important thing to be observed in road building is thorough under and side drainage ; and the location should be made with this in view, and

so as to avoid as far as possible the drainage from adjoining lands. Agricultural drainage has established the fact, that lands hitherto impassable for teams have been made firm and accessible, and those lands usually soft in the spring are in settled condition much earlier in the season. As the object of every road-maker should be to get a hard, firm, and durable road bed, thorough drainage should become with him an important study, as by this means he can preserve to a very great extent the permanence of the road. So necessary is this, that no one can hope to make good roads over wet grounds, unless embanked so high as to be above the influence of the water. No amount of metaling will compensate for the lack of drainage, as, sooner or later, it will mix with the soil and become comparatively worthless. Drainage is one of the essential parts of road construction, and no money or labor is so well expended as that which will effect this object. It is the most economical disposition of one's means that could be suggested. Wherever the ground is firm and dry, or naturally drained, this precaution is unnecessary. The object should be to obtain a free outlet for all the water that falls, or runs on to the road bed, or that which would be retained by the earth. Sandy or gravelly soils rarely need artificial drainage.

We prefer, in laying out an ornamental road, to keep the grade line as near the original surface of the ground as possible, and not make use of embankments or deep excavations, if they can be avoided; and in any case where compelled to do so, they should be carefully blended into the lines of the natural surfaces. The natural windings of a road seeking a uniform grade over irregular ground are very apt to be more beautiful than if a location is forced by heavy work. Independent of the economy of avoiding earth work, there are also other considerations of value, among which would be less liability to wash and less labor in repair, a straight road on a steep grade being among the most difficult of all to keep in good condition. To preserve a handsome grade with the least amount of earth work is one of the best of reasons for adopting a gracefully flowing line.

In most cases it would be preferable to remove one foot of the top soil from the road, as that is more likely to retain water than the subsoil; yet there are examples in which the top soil would be best. Whatever is removed to this depth can be advantageously used in filling up irregularities or depressions about the grounds.

The whole secret in making a road not designed to have a covering, but to be used as an earth road, lies in a skillful and judicious location, moderate grades, thorough drainage, (which include also an inclination from the centre to the sides,) and the use of the firmest and least absorbent earth obtainable. More evils can be avoided by a proper location than could be remedied by all the ingenious devices yet brought to notice. All matters of construction are but secondary to location; one is but a simple mechanical process, the other involves judgment and skill; the one an exhibition of labor, and its attendant bustle and noise, the other apparently a summer day's recreation, the result, however, of years of

study and hard work, the invisible power that decides between a judicious economy and a wasteful extravagance, that solves that difficult problem wherein is attained the best results at the minimum of expense.

Whatever class of covering may be adopted for the purpose of improving the surface of a road, will not alter in any respect the preparation of the earth road; the covering, whether it be gravel, stone, or other material, must have the same foundation made for its reception as has been described for use without covering. We are particularly desirous of calling attention to the expensive blunders usually committed by those who pretend to lay out and construct ornamental roads having a stone covering, and to direct attention to those intelligent and well-known systems which not only present the most good qualities, but do so with the most economy of means. There is no impression so absurd as that which supposes a truly scientific course of road-building to be the most expensive; on the contrary, it is the true principle of economy, although on private estates there are strong prejudices to overcome among those who copy the usual poor plan in which the mass of materials is supposed to make up the deficiency in quality and combination. He who uses eighteen inches to three feet of broken stone, of all sizes, in making a stone road, ought to be able to give good and sufficient reasons for his acts. It must, however, be plain enough to any one who investigates thoroughly this subject, that such would be a foolish and extravagant waste of materials and labor, and that no example of such construction can be found among the really fine specimens of road-building in this country. We shall in our next article on this subject illustrate the best mode of constructing broken stone roads, showing wherein a properly prepared stone covering of from six to ten inches in thickness is every way better than the common practice of building such roads in country estates, as has been thoroughly demonstrated for years by the matchless broken stone roads of Telford, McAdam, and Bayldon, the best examples of which we have in the magnificent drives of the Central Park.

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#### PRESERVING THE PEACH.

BY J. C. THOMPSON, TOMPKINSVILLE, STATEN ISLAND, N. Y.

AFTER several years' trial, I am confident that the application of fine brimstone (flour of sulphur) to the base of the tree will preserve it, first moving away the earth about three inches deep, and destroying the worms, if there be any, applying a small or large handful, according to the size of the tree, and replacing the earth.

This may be done every year, for a certainty, or once in two years. This I accidentally discovered, moving the earth from a peach tree 6 or 8 inches in diameter, much injured by the worms, the bark all off, and the wood badly eaten away. Having a jar of flour of sulphur by me, I emptied the contents, from half

a pound to a pound, in the opening made around the tree, to clean out the worms. The earth was replaced, with slim hopes of the tree recovering; but during the summer the foliage assumed a deep rich green, and the tree grew finely.

On removing the earth in the following spring, no trace of the wound was visible. Since then, the use of sulphur has kept my trees free from borers, and I have no doubt but a mixture of sulphur and soft soap applied to the base of *apple trees* with a brush, would prevent the depredations of the apple tree borer.

*Renewing Peach Trees.*—Peaches are never borne twice on the same wood, but always on the new wood of the previous summer's growth; hence peach trees soon get beyond our reach, if not cut back, or "summer pruned." The bearing wood each year gets farther from the ground, until we only find a little fruit on the extreme ends of the branches. Mine were in that condition in the spring of 1861, when, as the very sudden cold snap of November, 1860, destroyed all the fruit buds, so there would be no fruit for the trees to nourish in the summer of 1861, the growth of wood would be very great, and the trees still further beyond control. To subdue them, I sawed them off about two feet from the ground, in April, and covered the wounds with gum shellac, (not a good article;) a mixture of one-third each of beeswax, rosin, and tallow is a much better covering. They all pushed out numerous shoots, which grew from 5 to 8 feet in length, and every twig is full of fruit-buds, so that I have a good prospect of a crop the coming season, unless the mercury falls to 8 or 10 below zero, a degree of cold the peach blossom bud can not stand in this section.

The conclusion arrived at is this: with the treatment named, (barring the excessive cold,) a crop of peaches can be obtained every year, by sawing down every other tree in the row, or alternate rows, every year. Let half the trees be producing wood and the other half fruit, and the following spring saw down those that had fruited.

Should the frost kill the fruit-buds, then saw all back to the stump again.

The method of cultivating low gives us control of the trees, to thin out fruit, cut back, or summer prune.

[We can see no reason why sulphur, as applied by Mr. Thompson, should not be a good preventive of the depredations of the borer. Soft soap applied to the base of the tree is a good preventive of itself; so, also, is the refuse grease of the kitchen. Sulphur would probably add to the value of either. We are enabled to confirm what Mr. Thompson says in regard to the results of cutting down the peach. During the same cold season, a number of trees were cut down at our suggestion, the trees being some seven years old, and the fruit-buds dead. All except one made good wood. It was considered an extreme remedy for an extreme case: we should much prefer systematic spring and summer pruning to a general resort to it. The suggestion will have its value, however, to many of our readers not familiar with it.—Ep.]

## WHERE ARE THE QUINCES?

BY EL MEDICO.

I HAVE the back volumes of the *HORTICULTURIST*, at least several of them, bound; and I have a little boy by the name of Frank, just three years old to-day. I love to show Frank the plates of fruits, etc., in the *HORTICULTURIST*, and Frank loves right well to see them; in truth, it gives him unbounded delight to see them, and he never tires of seeing the pictures again and again. Frank has a decided taste for fruit; and I think he will be a horticulturist. He shall have his garden this year, 4 feet by 4, within my garden, as his little sister (some older) has had for two years past.

But to my subject: After finishing the exhibition of a volume of the *HORTICULTURIST* to Frank a few minutes ago, he asked me: "Now, Papa, where the Quinces?" "My son, I will have to ask Mr. Mead." And now, Friend Mead, I will ask you, why have you slighted the quinces so much? The name of this very useful and very beautiful fruit is not so much as mentioned in your last three volumes. There must be something very attractive about it, for I have always observed that the ladies are anxious to get it, in its season, for preserving, and I have never known them to get it, except at a very high price. Although I have never known the price to be less than twice that of the Peach, I have never seen the demand fully met. For there is, perhaps, no fruit which ladies would rather make use of for preserves and jelly, not only on account of the *quality* of what they produce by their skill, but of its unsurpassed *beauty*. And on the score of healthfulness, I have never heard man, or woman, or child, so much as breathe a charge against the Quince.

For aught I know to the contrary, Quinces may be as numerous in variety as the Apple or Pear, and as variable in quality. I have often seen the kinds known as the Apple and Pear Quince; and I once, at a country fair in this State, saw Quinces on exhibition, of a kind known by the name of the producer, which were infinitely superior to the former kinds. I doubt if I exaggerate any, when I say they were 15 inches in circumference, and in appearance attractive beyond any thing of the kind I had ever seen. I have a tree of the Chinese Quince, now three or four years old, and apparently perfectly hardy. I obtained it on the recommendation of a friend who had fruited it on the eastern shore of Maryland. He represented the fruit as being large, very long, (like a cucumber,) of a beautiful yellow color, and delicious flavor. His wife had made from it a jelly, pronounced by good judges superior to that from the common Quince.

As an ornamental tree, the Quince, when properly pruned, is, to my eye, very beautiful. I think it has the rare advantage, like the dogwood, and a few others, of growing without detriment, within the shade of other trees. At all events, I once had the pleasure of seeing one remarkable for its beauty in such a situation, in the

front yard of a distinguished amateur horticulturist near Cincinnati. The tree was faultless in shape, an almost perfect globe rising from a large straight stalk, some three feet high, and when I saw it, laden with many hundred golden colored fruit, large and perfect. The sight was exceedingly attractive, and brought to my recollection the occasion when, for the first time in my life, I saw at the Mission of San Gabriel, near Los Angeles, in California, full-grown orange trees laden with ripe fruit interspersed among its deep rich green foliage.

Why is it, that a tree of such rare beauty as an ornament to a lawn, a fruit so pleasant to the eye and the palate, so much sought after, and so seldom to be found in abundance, is neglected as it is, throughout our country?

Frank thinks any variety of Quince would look well in the HORTICULTURIST, and his papa thinks a painting, with a description of the Chinese variety, of which he has sought information in vain, would afford pleasure as well as valuable knowledge to many, if not all of its readers.

P. S.—The Concord Grape has been fruited with us, during last season; and its size and quality seem so much enhanced in our more southern latitude, that I can not refrain from predicting for it a reputation beyond that of any other native grape heretofore disseminated. Yet, for wine, it is doubtless inferior to the Catawba; and for the table, inferior in quality to the Delaware. For the million, however, it has attractions which will give it greater favor and reputation than any other kind.

It is high time the public had some enlightenment as to the Hybrids. Doubtless many persons fruited them the last season. Will they not speak out, and freely condemn or praise, as each may require?

P. S.—Since writing the above, and when spending a leisure hour in my garden, instructing an esteemed neighbor—lately “awakened” in the art of grape-grafting—I was interrupted by the post-boy handing me the last HORTICULTURIST, which contains an admirable article from *Horticola*. The knowledge it imparts concerning the delicate and uncertain manipulations of grape-grafting, is both of interest and value. The theory he presents of his own failure, is doubtless true. In early Spring, without sufficient protection by a cover of earth, frost will destroy the graft; and, later in the year, the drought and heat of summer will prove equally destructive. Last spring, hoping for a continuance of the blessing of peace—but hoping against hope, as the event has proved—I entertained the idea of beginning to set out a vineyard; and so, had several thousand cuttings of the Catawba—the Monarch, “by divine right,” of American grapes—set out in a rather sandy soil. An English gardener did the “job” for me—and I am sorry to say for the cuttings too. My direction to plant at an angle of 45° to the horizon, was so far disregarded, that the inserted points of most of the cuttings were not covered with more than two or three inches of soil. All such were dried up by the heat of summer; and not

more, perhaps, than a tenth part are now living, being those whose points by some chance were inserted deeper.

To obviate the effects of frost, I have this spring used grafts from 6 to 12 inches long; and, when the war shall have ended, I will know how to "head" the drought of summer: with what success, in both cases, Providence permitting, you shall know. And I trust, that with the assistance of *Horticola*, I shall be enabled, "*poco à poco*," to master completely the hitherto discouragingly uncertain art of grape grafting.

Before closing, allow me to return my thanks to *Horticola* for the refined and classic greeting he gives me in his last article. His polished pen and instructed mind have afforded me much pleasure; and I take him to be a man after my own heart—"hominem ad unguem." Would that he could come and be my neighbor here—"away out west." If that could be so; and if, again, my frequent visits should beget the belief, in the neighborhood, that he had lost his health forever, and had become my perpetual patient, I promise hereby never to present a bill of any kind to him, save it be a bill of fare in fruit season. I would make the pleasant effort to gratify his eye and palate with the best kinds of every fruit our climate will produce: and if my suspicion be true, that grapes are his *foible*, or rather his *forte*, I would exhibit to his gratified view many a trellis,

"O'er which the mantling vine  
Lays forth her purple grape, and gently creeps  
Luxuriant."

[We must plead guilty to this seeming neglect of the Quince, really one of our most valuable fruits. Embrace Frank for us, and tell him he shall have the "Quinsins." You estimate *Horticola* none too highly. Learned and polished, he is yet a practiced amateur, such as we seldom meet with. It is a rare privilege to enjoy the society of such a man. We wish you were nearer together, that you might see each other often. He will appreciate your beautiful recognition of his greeting. We have ventured to give him your address.—Ed.]

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## AMERICAN EVERGREEN TREES.—No. 2.

BY C. N. BEMENT.

*The Hemlock.*—We are pleased to notice the Hemlock is attracting more attention. We consider it, beyond all question, the most graceful, the most beautiful tree of the evergreen family indigenous to North America for ornamental purposes. It is a native of our northern hills, and too common to be generally appreciated; it is, notwithstanding, the most beautiful of evergreens. It is distinguished from all other Pines, by the softness and delicacy of its tufted foliage; from Spruces

by its slender, tapering branchlets, and the smoothness of its limbs; and from the Balsam Fir, by its small terminal cones, by the irregularity of its branches, and of the gracefulness of its whole appearance. It is as handsome as the Deodar, and is very much like it. The latter droops more, and is *silvery* in its foliage, instead of bronzy; but they are much alike otherwise, and are the best possible companions in pleasure grounds. It is of considerable importance, being in its perfection a more beautiful tree than the White Pine, or any other evergreen. It is far less formal in its shape than other trees of the same family. Its branches being slender and flexible, do not project stiffly from the shaft; they bend slightly at the terminations, and are easily moved by the wind; and as they are very numerous, and covered with foliage, we behold in the tree a dense mass of glittering verdure, not to be seen in any other tree in the forest. A great many persons, who only know the Hemlock in the wood, affect a contempt for it as an ornamental tree. They think it "shaggy, ugly, and wild looking." They only show their ignorance. Few have the least idea of its striking beauty when grown singly in a smooth lawn, its branches extending freely on all sides and sweeping the ground, its loose spray and full feathering foliage flaunting freely in the air, and in its full proportions of the finest symmetry and harmony.

Let us see what further can be said of it. Hardy, of fair growth when well established, color vivid green, unchanged by hardest frosts, and the style of branch and leaf superbly graceful. Nothing can exceed the beauty of its growth in early summer. For airy gracefulness, and the absence of that stiffness more or less prevalent in most evergreens, we must be allowed, therefore, to claim the first place for the Hemlock, as a tree for the lawn or park. The Norway Spruce, and several others, have their several excellences, but, all things considered, they must yield the palm to this.

The Hemlock is mostly unknown as a shade tree; it is seldom seen by the roadside, except on the edge of the wood, and not in cultivated grounds. In its native haunts, by the side of some steep mountain, it is most often a grand and picturesque tree. But, unfortunately, it has the reputation of being a difficult tree to transplant; and so it is, if taken from the forest and carelessly handled, though we have seen many of them removed with scarcely the loss of half-a-dozen in the hundred; yet, we are bound to confess, that in the ordinary rude handling it is impatient of removal. They will not bear the exposure to the sun and air, even for a short period, which seems to have little effect upon most deciduous trees. Once their roots fairly dried and shrivelled, they are slow to regain their former vital power, and the plant in consequence dies. If one can not give time and pains to do the work well, let him buy his trees from the nursery, and then they will be sure to live. When taken from the woods, it is best done in winter; or, if the soil is sufficiently tenacious, with a damp ball in spring, as has been done successfully by the writer. The want of success usually attending the transplanting of it from the woods, has prevented the general adoption of it as an ornamental tree. Some no-

ble specimens are occasionally seen in rude situations, where the cultivator has not interrupted their spontaneous growth; and the poet and the naturalist are inspired with a pleasing admiration of their beauty, because they have seen them only where the solitary birds sing their wild notes, and where the heart is unmolested by the crowding tumult of human settlements.

The young Hemlocks, by their numerous irregular branches, clothed with foliage of a delicate green, form a rich mass of verdure; and when, in the beginning of summer, each tiny twig is terminated with a tuft of yellowish green recent leaves, surmounting the darker green of the former year, the effect, as an object of beauty, is equalled by the very few flowering shrubs, and far surpasses that produced by any other tree.

As it bears pruning to almost any degree, without suffering injury, it is well suited for hedges, and screens for the protection of more tender trees and plants, or for concealing disagreeable objects. A hedge of this kind may be made in a few years, to assume the appearance of an impenetrable evergreen wall, really impenetrable to the wind and to domestic animals. It adds also to the landscape in winter, by the green foliage, which is always cheering to the sight at that dreary season.

We must not omit, while speaking of the evergreens, to say a word concerning

*The Larch*.—The European and American Larches, says Michaux, are more strictly confined than any other resinous trees to the northern zone of the two continents, and they are the first to disappear in approaching a milder sky. The American species is most abundant in the States of Vermont, New Hampshire, and Maine. In New York, it is seen only in the swamp of white cedar, with which it is scantily mingled. In some sections it is called *Hacmatae*, and *Tamerac*.

The American Larch has some striking points of form and habit. Like the Southern Cypress, it differs in its deciduous character from other coniferous trees; hence, both are distinguished by the brilliancy of their verdure in the early part of summer, when the other evergreens are particularly sombre; but they are leafless in the winter.

The American and European Larches differ only in the longer flowing foliage, and the larger cones of the latter. Among the winter beauties of both species may be mentioned the bright crimson cones that appear in June, and resemble clusters of fruit. In the vigor of its years it tends to uniformity, and to variety when it is old. Indeed, an aged Larch is often as rugged and fantastic as an old oak.

The American Larch, like its European relative, is a magnificent tree, with a straight, slender trunk, eighty to one hundred feet in height, and two or three feet in diameter. Its numerous branches, except near the summit, are horizontal or declining. The bark is smooth and polished on the trunk and longer limbs, and rugged on the smaller branches. The leaves are flexible, shorter than those of the European species, and collected in bunches; they are shed in the fall, and

renewed in the spring. The cones of the European Larch are twice as large as those of the American species; but the two trees are so analogous, that a separate description is unnecessary.

The Larch seems to delight in the coldest situations, and, like the Spruce, flourishes best in swamps, but will adapt itself to almost all soils, except sandy. We have removed it successfully from swamps, in the months of May and June, without losing a single tree.

In ornamental planting Larches are very desirable, and no lawn or pleasure ground of any size would be complete without them.

*The White Cedars* are low evergreen trees, natives of Europe and North America, and remarkable for their spiry form, and closeness of grain, and the durability of their wood. It is always a graceful and beautiful tree. Even when growing in its native swamps, hemmed in on all sides, and struggling for existence, the top, and a branch or two near the top, will be marked by a characteristic elegance of shape which no other tree of the same family possesses. It is entirely free from the stiffness of the Pines, and the spiry top of the Poplar; and to the grace of the Cypress it unites the airy lightness of the Hemlock. Its foliage is evergreen, each leaf consisting of a little branch numerously subdivided; and the flowers, which are scarcely visible, produce very small rough cones, of a greenish tint, which changes toward the fall, when they open to release their fine seeds.

The White Cedar has so many excellent qualities, that in an industrial and manufacturing community it can never cease to be valuable. Fortunately, it is one which can be cultivated with less expense than any other forest tree, and it conflicts with no other.

The White Cedar at the South grows seventy or eighty feet high. When close and compressed, the straight and perpendicular trunks are free from branches to the height of fifty or sixty feet.

It grows generally in swamps or moist grounds, which are only accessible during the dryest periods of summer, and while frozen in winter. The trees stand so thick in these swamps that the light can hardly penetrate the foliage. Extensive swamps of White Cedar are found in Oswego County and in the vicinity of Syracuse. We have noticed them on high rocky grounds east of the city of Hudson. It is said to make a beautiful hedge.

*The Juniper.*—This family varies much in form, color, and habit; some being compact, upright and pyramidal, others open and spreading; some a dark grass-green, others, again, tinged with blue. It becomes rusty in winter, and is wont to lose its lower branches, and to become shabby on the sides exposed to severe winds. Give it a partially sheltered aspect, set it in a sandy loam, and it will often make a handsome tree.

The Junipers deserve more attention than they have heretofore received. They

are quite distinct from all other trees, and being of medium size, are well suited to small grounds, cemeteries, and other such situations.

The species are all aromatic evergreens, with narrow leaves, either spreading and sharp-pointed, or intricated, minute, and obtuse. The fruit is globular or oval, of a bluish cast, or brown with a glaucous efflorescence. The stimulating and diuretic powers of the berries are well known, and are proverbial for the flavor they give to gin.

The common Junipers are hardy as far North as Albany, and are common on Staten Island, Long Island, and on the banks of the Hudson River. Planted in rows near together, they form an excellent protection in exposed situations, and bear transplanting even when well grown.

The Dwarf Juniper is a variety, and, as its name implies, more humble in its growth. Some are low and straggling in their growth, but as a general rule they assume an upright, compact, tapering, conical shape, resembling somewhat a miniature Lombardy Poplar. Standing scattered about in a field, when viewed at a distance they look like sentinels on duty. They can be trained to almost any shape, and be made quite ornamental. An occasional tying in of the branches, and a little clipping of the extremities, improves their appearance. It grows wild in several parts of the State, and travellers on the Hudson River Railroad could not fail to notice this little upright Juniper growing in great perfection on the hill-sides near the Highlands, and also on the banks of the river near Coxsackie and Albany.

The Red Cedar is usually a ragged-looking tree; it is distinguished from the White and the Arbor Vitæ, the only tree which it resembles, by bearing its fruit in the form of a berry, and its leaves exhibiting but slightly a tendency to form themselves in a plane. The trunk is straight, rapidly decreasing, and full of branches. It is often deformed by holes produced by the loss of branches, and by knots left in the attempt to make it a shapely tree by pruning.

Though usually of but little beauty, it may be made a handsome low or middle-sized tree by careful pruning when young. If this is attempted too late, the tree is deformed by numerous knots. When growing in a dry, but rich soil, in sheltered situations, it is sometimes a handsome tree.

The wood is light, close-grained, smooth and compact, and possessed of great durability. The agreeable permanent aromatic odor recommends it for certain uses, as that of making pencils and the bottoms of small boxes and drawers, the aroma making it a safeguard against insects. The berries are bluish, and are employed in medicine as a diuretic, and to give their peculiar flavor to gin.

## CULTURE OF THE CAMELLIA JAPONICA.

BY WM. CARMIENCKE.

THE vegetable kingdom has presented us with an inexhaustible richness of gratifying and inquiring meditations. Sometimes it is beautiful flowers that attract our attention ; at other times, the variegated leaves of the Begonias, Marantas, Dracænas, or Crotons, or the flavor of some fruit. It would be impossible for any contemplative mind to pass by the *Camellia Japonica*, whose flowers by cultivation have attained such great perfection. When we behold their wax-like appearance, clear colors, and differently formed flowers, and dark green, shining foliage, it refreshes our soul. Would it, then, be out of the way if we made use of these long winter evenings to make ourselves familiar with this noble plant ?

The *Camellia Japonica* is so generally known that it will be needless here to describe it. Among the other species of this family, we may here name the *C. Bohea*, (*Thea Bohea*,) black tea plant. This plant, which has given to mankind a refreshing beverage, first became known in the city of London, England, in 1660, where a tobacconist sold it as a remedy against different diseases. After this it became a general drink in Europe. The other, *C. viridis*, (*Thea viridis*,) the green tea plant, is a native of China, Tonquin, and Japan. In my present communication, it is not my wish to instruct the old veterans of floriculture ; all I desire is to give those that wish it some useful hints.

In connection with the culture of the *Camellia*, it will not be uninteresting to inquire into the different laws of nature which govern vegetation ; this will tend to convince us of how important it is, that theoretical and practical knowledge should go hand in hand. The man without theory is blind, and the man without practice is blind. The natural agents which govern vegetation are four in number ; these are, Air, Heat, Soil, and Water. Yet to have the proper influence upon vegetation, they must stand in certain proportions to each other ; if the plant is deprived of one of those agents, it will be impossible for it to develop itself perfectly ; consequently, when we undertake to cultivate plants we must, to secure their perfection, place them in a soil and temperature that harmonize with the one in which they grew in their natural state ; the question therefore arises, How are we able to naturalize a plant ? The maxim upon which the naturalization of plants is founded is principally, the similarity of temperature in regions. In other words, it is impossible for us to naturalize a plant in a country unless its temperature is equal to the one of which the plant is a native. We know that the temperature of a place depends upon two different circumstances : First, its distance from the equator. Meteorology has taught us, that the nearer a plant is to the equator, so much warmer is it placed, and the plants that grow there need a higher temperature. Secondly, the temperature of a place is different according to its

altitude. When we ascend a range of mountains, like the Himalaya in Asia, or Andes in South America, we perceive that the temperature diminishes, as it does when going from the equator towards either of the poles. After passing through regions of different plants, for instance, Orchids, Palms, Tree-like Ferns, Adromedas, etc., and familiar plants of our northern climate, we find the mountain tops crowned with perpetual snow, which hinders the further progress of vegetation. It will therefore appear evident to us, that we could never arrive in the haven of success, if we should place all the different families of plants in the same temperature ; it has therefore been found expedient to erect different glass structures, in which, by means of artificial heat, a temperature can be maintained equal to the one the plants grow in when in their native home. It may not be uninteresting to some of your readers to make here a few remarks concerning temperature, and plants kept in the five principal departments.

1. *The Orangery.*—In this house Oranges, Myrtles, Pittosporums, and other of the hardiest exotic plants, are kept during winter. Temperature, 40 to 45 degrees Fahr.

2. *Conservatory.* 40 to 50 degrees Fahr. The plants in this house are mostly all planted in a prepared border.

3. *Green-house.* Here are kept plants which are natives of New-Zealand and the Cape of Good Hope. Temperature, 45 to 50 degrees Fahr.

4. *Hot-house.* This house is more used than any of the others. Here a temperature between 55 and 60 degrees Fahr. is maintained, and it serves to keep some of the hardiest stove-plants, and the more tender green-house plants.

5. *Stove.* The greatest heat is kept in this house. The plants are natives of the tropics, and require in the winter from 75 to 80 degrees Fahr. If we, therefore, wish to have fine specimens of Camellias, our first object must be to place them in a proper temperature.

**TEMPERATURE.**—Notwithstanding the Camellia is a native of China, it will thrive best in the green-house—temperature, 45 to 50 degrees Fahr. If placed in the hot-house, in order to get the flowers earlier, they should not be crowded together with other plants, but placed by themselves in the coolest part of the house, where they can have plenty of air and light.

Any sudden change of temperature should be avoided as much as possible, as the Camellia is liable to drop its flower buds when this takes place. During winter, when the weather is mild and warm, do not neglect to give plenty of fresh air. A great deal of care must be taken not to give bottom air, unless the weather is very mild ; in fact, in a well-arranged green-house, sufficient air can always be given by lowering the top lights. Towards spring, when the weather commences getting warmer, the Camellias should gradually be hardened off until it is time to move them outdoors. The best place to stand them is against a northern wall, or on the north side of a building, where they will be sheltered from the direct rays of the mid-day sun, which is very apt to burn the young and

tender shoots. Avoid placing your plants under trees; if no better place can be found, a temporary shed should be erected.

*Soil.*—A superficial glance would no doubt make us draw the conclusion, that there was no need of being very particular in regard to the kind of soil best adapted for those plants we wish to cultivate; but a closer investigation will tend to convince us that such is not the fact. When we remember that the soil is the principal agent from which the plants draw their nourishment through the roots; and when we cultivate a plant it is not enough that it grows, but our object must be to give it substances which are needful, in order that the plant may develop itself and attain the greatest perfection. Prof. Justus Liebig justly says: “Give —so says the rational theory—to one plant such substances as are necessary for its development, but spare those which are not requisite for the production of other plants that require them.” We have, therefore, only one true course to pursue, and this is to inquire, In what kind of soil does this plant grow in its natural state?

[*To be continued.*]

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## DIGESTIBILITY AND PROFIT OF NATIVE GRAPES.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

In the HORTICULTURIST for January, I presented some remarks on the “value of native grapes,” in which I asserted that common, ill-ripened native grapes are highly indigestible, and that violent deaths had been caused, in the vineyards near Cincinnati, by eating rather freely of the Catawba. These positions have both been very emphatically denied by several writers, and surprise has been expressed that I should state as facts things which to some persons seem so incredible. I therefore, in self-defence, propose to say a few words more on these points.

The question of the digestibility or indigestibility of native grapes might be settled by reasoning upon physiological principles alone. We know that substances are more readily digested in the stomach when finely divided by mastication, and reduced to a pulp-like mass, which can be freely saturated or permeated by the gastric juice; and that food is more difficult of digestion when passed into the stomach in the form of solid masses, of close texture, which can not be penetrated by the digestive fluid, but must be dissolved slowly from the outside. Hence a cube of pork, or a piece of hard-boiled white of egg, as large as a nutmeg, will remain in the stomach undigested for six or eight hours, while particles of animal food, divided by chewing, will be dissolved in three and a half to four hours. Substances of a porous character, like bread, or fibrous, like beef, mutton, and fowl, are also easily digested, even in pieces of considerable size, because they can be penetrated by the gastric juice.

The pulp of our common (often not well-ripened) native grapes is a very dense, close, tenacious substance, not porous like bread, nor fibrous like beef, but firm in texture, almost if not quite water-proof; cold, slippery, solid, and evidently quite as indigestible as a cube of cold, fat, boiled pork. There is nothing in these grapes pungent, or stimulating to the stomach, to excite digestive action; but down they go, without chewing, and there they lie, as bad as so many hard apple cores, waiting the slow process of digestion from the outside of the various pulps, and wearying if not torturing the stomach by the unnatural effort.

So much for the philosophy of digesting native grapes. Practically, we all know that persons of feeble digestion are very shy of eating freely of native grapes, and those who do indulge in them occasionally, like to have a little good brandy at hand, to use as a medicine afterwards, to put the stomach into vigorous action, in order to get rid of the dangerous dose as speedily as possible. Mothers who are careful of their children's health are always cautious about giving them common native grapes, and hence their sale for use as a table fruit, is very limited as compared with strawberries, blackberries, etc.

If it were desirable, I could furnish a volume of testimony from physicians, as to the injurious effect of these grapes upon the stomach and bowels; but it is unnecessary, as nearly every person of any judgment in the matter of diet, is aware that there is no fruit so dangerous as native grapes when eaten freely, especially in the ill-ripened state in which they are usually sold in our markets.

Well ripened, tender native grapes, if eaten in moderation, especially with bread or other food, and divested of their seeds, are, beyond all question, highly refreshing and beneficial, as an article of diet, even to the sick.

Have deaths been produced in the vineyards at Cincinnati, from eating rather freely of the Catawba grape? This is a question of fact, not of opinion or theory. My assertion was based upon a good deal of minor testimony which I will not here detail, although I consider it reliable, but chiefly upon the following in the "Vine Dresser's Manual," by Chas. Reemelin, of Ohio, published by C. M. Saxton & Co., 1856, a work well known to all the leading grape-growers in the country. When I first made the statement in question, at the meeting in Brooklyn, I gave my authority. On page 85 of Reemelin's Manual will be found the following remarks:

"I would here warn against that voracious eating of grapes, while gathering them, which is characteristic of raw hands. Our [native] grapes have very large kernels, and very tough skins, and there is inside also a rather indigestible pulp. All these things are different in Europe. There the kernels are small, the skin very light, and the inside is almost without pulp. Persons in this country read of the grape-cure of Europe, and from this conclude that grapes are always healthy. So they no doubt are, if eaten in *small quantities*, and when *perfectly ripe*; but I know of *five deaths*, within my own experience, which, from unmistakable signs, arose from eating too freely of grapes. One of these five was a most hearty and

very intelligent young German, who laughed at all warnings, and would insist that grapes were surely healthy at all times of the day, and in any amount."

These are the facts and the testimony. I believe the witness is a credible one, and the record has never been disproved. I earnestly advise our friends in New York, who sometimes eat five pounds a-day of native grapes, to heed the solemn "warning" above given, lest they should meet the untimely fate of the "voracious" eaters of native grapes "out West."

In respect to the profit of native grape culture, the most exaggerated statements have been published by parties interested in the sale of plants. The truth is, that the losses from attempts at vineyard culture in this country have been enormous, and the profits are never very great. We are constantly told, that it will pay to invest \$4,000 in the preparation of an acre of vineyard, and that such an acre will produce from \$500 to \$1,500 per annum; one writer says he can plant 1,000 Concord vines on an acre, which will produce 25,000 pounds of grapes per annum, which, at 10 cents per pound, amounts, as will readily be perceived, to \$2,500.

Now the usual product of an acre of the small fruits, (strawberries being the most profitable,) is only about \$300 to \$500, generally less than \$200. At and near Philadelphia, native grapes, for the last ten years, have been less profitable than any other small fruit, for the reason that there has been no success in their culture. Since writing my first article on this subject, I have learned many facts which sustain the statements then made.

At a meeting of the Fruit Growers' Society of Eastern Pennsylvania, held at Lancaster, Feb. 5th, the question was directly presented to the Society, whether native grapes could be cultivated in vineyards, on an extended scale, with profit. There were present several extensive dealers in native grape vines, and numerous cultivators of the vine for market fruit. Not one person could be found to say a single word in favor of the profit of native grape culture, in the open field, for market purposes. On the contrary, several leading cultivators and dealers in vines, candidly confessed that the chance of profit from this source was more than doubtful. Mr. R. A. Grider, of Bethlehem, stated that he had a vineyard of seven acres, now seven years planted, which he considered a total failure as to profit, his greatest product, owing to injuries from frost, mildew, and insects, having been only about \$50 per acre, and even this he was apprehensive he should never see again. Mr. Grider is a very intelligent man, and a skillful cultivator. The sketch which he gave of his misfortunes in grape culture, of the killing frosts, the blighting mildew, the destructive insects, the fungus, excrescences, rot, and other "moving accidents," which had attended his experience, exceeded any thing we have before heard, in this way, from any quarter. The beetles, borers, sawflies, grubs, curculios, and other cutting, gnawing, boring, and leaf-devouring insects which had infested his vineyard, were some of them new and remarkable in their character, and altogether presented an army of enemies truly appalling. I

have since heard of many failures, in vineyard culture, near Philadelphia, and I have yet to hear of a single case of positive and satisfactory success.

But what is the fact at Cincinnati? Is the success and profit very great there? By no means. There is much mildew and rot there, and vast destruction by vine beetles; and the total product per acre, in a successful season, in far less than the product of a decent acre of strawberries. I have the facts and figures before me, right fresh from Cincinnati, and from an authority which I presume will not be questioned.

R. BUCHANAN, Esq., of Cincinnati, writing under date of Feb. 15, 1862, makes the following precise statement:

"I cultivate seven acres, 20,000 vines. My vineyard is in a good position. For fifteen years it has averaged 308 gallons of *wine* to the acre, which has been sold at \$1.00 to \$1.50 per gallon for the best. About one-sixth is inferior, and sells at half-price.

"Our average in *well-cultivated vineyards* is about 200 gallons to the acre, which is the same as in France and Germany."

From this it appears that the best cultivator in Ohio scarcely realizes \$300 worth of *wine* from an acre of vineyard, even after all the trouble and expense of manufacturing the grape juice; and other *well-cultivated* vineyards obtain less than \$200. Now what must be the product of the *common vineyards*, where the vineyardist is compelled to sell his *grape juice* to the wine-makers, at what he can get, instead of making wine himself? Grape juice is more perishable than green peas, and if not of good quality, cannot be sold at 50 cents a gallon. What luck, also, for the poor vineyardist, when he gets frosted, mildewed, and bug-eaten?

In France and Germany the product, Mr. Buchanan tells us, is the same per acre as in Ohio. We knew this before; and we knew further, that vineyardists, or vine-cultivators, (not often the owners of the land,) and the fishermen and shrimp-gatherers of the world, are universally about on a par as to the profit to be obtained from their respective pursuits.

A few words of personal explanation, in conclusion. This discussion appears to place me in the attitude of a determined opponent of native grape culture. Such is not the fact. I have only opposed the exaggerated statements of dealers in grape vines. My positions have been briefly, 1. That there has been no good success in vineyard culture at Philadelphia. 2. That common, ill-ripened native grapes, are very indigestible and dangerous to delicate children and persons of feeble digestive powers. 3. That deaths have been produced at Cincinnati by eating too freely of Catawba grapes. How far I am sustained by facts I leave the reader to judge.

On the other hand, I believe that native grapes, in sheltered situations, and in city yards, furnish a very useful, agreeable, and often profitable product, when grown to such an extent only that the fruit can be consumed by the grower, or sold at *retail*, in good condition.

I am quite ready to admit that many persons like the flavor of native grapes quite as well, or even better, than that of any hot-house grape; and that much improvement has been made, of late years, in the varieties cultivated. The truth, as to profit, is perhaps quite encouraging in some instances, when a crop is obtained, although the rapid increase of mildew and vine beetles is rather threatening. Still, with the undying hope of an earnest fruit cultivator, I keep on trying. I have upwards of 2,000 native vines in full bearing condition this season, and I hope to get a crop, though with some fears for the result. The Delaware I think the most promising of all the native grapes; but we are charged by leading dealers \$3.00 a-piece this spring for Delaware vines fit to plant. The difficulty of propagating the Delaware successfully and speedily, of course renders the vineyard culture of this grape at present out of the question.

I beg all writers for horticultural journals to take notice that I have no desire to prevent the cultivation of native grapes. On the contrary, I am ready and willing to give them all the consideration they deserve, and shall hail with pleasure any improvement that can be made in their quality, or in their cultivation. I trust no one will again feel called upon to abuse me for telling a few wholesome truths about them. Let writers at least not try to make me appear, what I am *not*, an inveterate opponent of native grapes.

[The doctor, we are glad to perceive, has more clearly defined his position, and leaves us in less doubt as to his real opinions. It is common, ill-ripened grapes that he considers indigestible, such as are usually sent to the Philadelphia market, and, for that matter, to other markets. But the remark should not be confined to native grapes, and doubtless would not be if the Doctor were speaking of fruit generally; it is equally applicable to all fruits. In regard to the deaths at Cincinnati, vouched for by Mr. Reemelin, it seems clear that the persons referred to died, not, in fact, from the simple act of eating grapes, but in consequence of consuming them in an unripe, crude condition, seeds and all, and like gluttons. The best gifts of Providence are daily abused in a similar manner, and often with like consequences. How many are yearly sent to untimely graves from eating unripe fruit. The profits of grape growing will form one of our articles on grape culture, and we leave that part of the subject for the present. Like other kinds of culture, it has its conditions; where these are present, it is decidedly remunerative. The cause of the failure of vineyard culture at Philadelphia we can understand in part, but not fully; we mean, if possible, to get at all the reasons. That there are native grapes that can be successfully grown at Philadelphia, we have not a doubt; and we expect the Doctor to grow them. The price of Delaware vines this spring is very much less than the sum named, and they will soon be within the reach of all. We record with pleasure the Doctor's declaration, that he is not an opponent of native grape culture. This at once removes him from a false position, while it leaves him fully at liberty to discuss the merits of the subject. The length of the Doctor's article precludes other remarks for the present.—ED.]

## WHAT'S IN A NAME?

BY PRATIQUER.

MEN of science have conceded the privilege to the first discoverer, propagator, producer or describer, of a tree or plant to give it a name, which shall take precedence of any that may ever after be given. My attention was drawn to this subject on an examination of numerous catalogues, which have been sent to my address by friends who are aware of my weakness on the subject of grape-culture. The prevailing *fashion* among cultivators is to name each new grape in compliment to some loved female, whose name has become not only a household word, but is idolized for the many virtues of its possessor, and consequently to the person using it is expressive of high excellence; but does the grape public appreciate the name in the same manner? or does it not rather convey an idea of effeminacy? I will readily award to the sponsors a degree of affection and veneration for the sex, in which I hope I am myself not deficient; but how does it look? how will it look in the next century? The grape-vine, like the raven, lives seven hundred years. These ladies' names may all become obsolete while the vines are still young. They are all well enough when applied to but few; when we had but few native varieties, and expected no more, Isabella, Diana, and Rebecca were well enough; but their name is soon to be legion, and we are running the thing into the ground in more senses than one. Multiply the female names, and every producer of a new variety may have his Mary, Mary Ann, Cecilia, Clara, Dorinda, etc. We already find the names duplicated; thus we have two Annas, Anna Reid and Anna Grant; two Emilies, Raabe's and a foreign seedling (Creole). Mr. Allen and Mr. Rogers are producing new grapes by the score; some of them are destined to be remembered when this generation has passed away. If female names are only to be given, they must begin the alphabet, and use every one in the list for their numerous progeny, using each name many times over; and then the name of the producer will be required as a surname, to identify the plant; thus we may have Abigail Reid, Agatha Grant, Agnes Raabe, Althea Allen, Antonia Rogers, etc., to the end of the chapter. I admit this is not without precedent, and these names Latinized might appear as high-sounding and be as unpronounceable as those already applied to our Flora. Our grape-growing is an American institution, and we should have plain, distinct, American names, expressive of something indicating origin, locality, etc. Now who can mistake the Mustang, Ozark, Catawba, Venango, Wyoming, and Adirondac? Does not the mind at once wander from the plains of Texas to the mountains of Missouri, South Carolina, Pennsylvania, and to the great Northern lakes, and fix the locality of each? Does it not comprehend at a single glance that the former is not suited to high northern latitudes, while the latter find their congenial clime there? The names of our mountains and rivers will supply names for all the really valuable new varieties which may be introduced during

the present century, and I recommend that they be freely used, instead of the female names, for such new varieties as may be hereafter introduced. There are many other names not objectionable. "Iona" tells its own story, and announces its origin and its author. "Eureka" is good, provided we have really *found it*. Hartford Prolific is all right, but let us then ignore all other "Prolifics." Every bearing grape is so, if allowed to roam. *Seedling* as an adjective is inadmissible and creates confusion: all new varieties are seedlings.

[At first we thought some fair one had been abusing Pratiquer, and he was writing in a "miff;" but he seems to be in earnest. We can not help thinking it a little strange, however, that he has no fault to find with *male* names. Having for many years done more or less in the way of naming fruits and flowers, we have been all over this ground, seen its difficulties, and may be supposed to have some knowledge of how best to meet them. To confine plants of any kind to one class of names, would certainly be objectionable; but no one, we believe, has yet proposed this. We know of no class of names, be they of rivers or mountains, that are not open to precisely the same objections as female names. These last are in no more danger of being duplicated than the others. Pratiquer is mistaken in supposing that we already have two Annas and two Emilies. There is but one Anna, that named after Dr. Grant's daughter: there is no Anna Reid. Judge Reid did, indeed, think of naming one of his seedlings Anna, not knowing that there was already a grape of that name; but he has not done so. So, too, we can no more say that there are two Emilies than we can say that there are two Delawares or Isabellas. A grape was sent out for the Emily, which proved to be something else; but a mistake of that kind, of course, would not make two Emilies. The fears of Pratiquer, that we shall have to resort to surnames, are purely imaginary; there is no room to anticipate such a contingency. Pratiquer thinks we should have plain, distinct names, indicating origin, locality, etc.; and in this we agree with him, so far as conferring such names is possible; but the end is soon reached. We differ from him, however, in the conclusions he draws from such a nomenclature. It so happens that of the origin of many of the grapes he names, we know next to nothing, and their names are no indication at all of their hardiness. Take the Catawba, for example; no man has yet been able to tell us where it originated. The Isabella is supposed (and it is a mere supposition) to have originated farther south than the Catawba, and yet we all know it is a hardier grape. It would be easy to show that the locality where a seedling originated forms no safe indication of its hardiness; it is a good deal more important to know where the seed came from. We have named one seedling after the place where it originated, not because we think it will form any indication of its hardiness, (we have every reason to think quite the reverse,) but because the name happened to be a good one; we meant the name to be purely complimentary. Now we have two others from the

same place; but how will origin or locality help us here? In regard to our mountains and rivers, their names, many of them, are altogether unexceptionable, but they would be no index to hardiness, and we can not perceive in what respect they are in better taste than the names of our women. "Iona" may tell its own story to those who know its origin, but to many it may tell "a tale of an Eastern clime;" it is a good and classic name, notwithstanding. We are quite willing, too, to admit that "Eureka" is good, but we can not perceive wherein it is better than Diana. "Adironac" is likewise good, but every man of taste will say that "Rebecca" is better. To make a long story short, we will simply say, that naming plants is mainly a matter of good taste, and the judicious use of female names can not, therefore, be dispensed with. We propose to make a moderate and modest use of them, and give our American women a worthy place by the side of our majestic mountains and rivers.—Ed.]

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A CHAT ABOUT GRAPES.

BY EX-MEDICO, CLEVELAND.

*Friend Mead*—A stormy day and a *good* cold conjoin to keep me in-doors today, and this has been pretty much the case for several days past, so that I have read up the "HORTICULTURIST" and "Monthly," and other fireside companions, and am rather at a loss how to amuse myself this morning; so I set down to have a little Horticultural chat with you. Well, what shall be the subject? "Grapes." So be it. I confess to have a little of that mania, just a little. New grapes? Bah! you don't call the Delaware *new*, do you? It is an established institution. Who cares whence it came? I like to know whither a few of them go. If I had a hundred acres in fruit bearing, I should have no fears about them all going. It appears to be overcoming the debility engendered by improper propagation. This propagating from the weak and succulent laterals I regard as wholly inexcusable on the part of any honest nurseryman. I would rather have one good healthy plant than to have a dozen of such. "What about the Cuyahoga? You are expected to know something about that." Well, let me say that my confidence in its superior excellence is unabated, although the last two seasons have not presented fruit equal to its former character. "Why?" First, remember there is but one vine of any importance: with eyes selling at 25 to 15 cents each, of course they are of more importance than fruit. The summer of 1860 was one in which the mildew affected our vines to an extent I had never known before; even the Clinton and the forest vines were much affected by it. The foliage of the Cuyahoga was very considerably, and the fruit somewhat, affected by it for the first and only time in its history; consequently, it did not attain its usual character, although from it many of the highest expressions of opinion were obtained. The Isbellas beside of it produced no fruit worth gathering.

On the second morning of May, 1861, we had a severe freeze. Ice from  $\frac{1}{2}$  to  $\frac{3}{4}$  inch thick. The young shoots on the vine had advanced from 1 to 2 inches. They were, of course, all killed. The secondary bud had then to throw out, on which some fruit was borne, but of course *much* later, and, consequently, the fruit failed again to come to its usual character; but on my Delawares, Dianas, seven E. N. Muscadine, (pardon me,) although my vines were strong, I did not have any fruit from the same cause. Nor, aside from the *severe* amputations, is the vine in the culture and condition from which you and I would expect the best results. Next season we expect many of the vines distributed over the country, to be in bearing. Have we a right to expect it to have its perfection of character the first season? I *believe* that is not the present theory in regard to new fruits, especially vines, by our best Pomologists. Tell me, is that so? You say, yes. Well, I agree with you; but what say *other authorities*? I see, from the proceedings of the Cincinnati Horticultural Society, Mr. S—— brings in a few bunches of the Taylor's Bullitt. First fruits; don't say how cultivated; at least they don't report; thinks he has been humbugged. Society passed a resolution, which it reiterated next meeting, "Taylor's Bullitt unworthy of cultivation!" It *may* be so; but, gentlemen, I should like to have a little better evidence. Are you not hasty? Did you, or did you not, about the same with the Delaware? "By their fruits ye shall know them," (the grapes I mean,) yet not always by the first crop; possibly they, like some of our young America, *may* bear a crop of *wild* oats first, then the good fruit. I might cite another instance on the same grape—here in Ohio—by a distinguished Pomologist, but I forbear. Time will tell whether they hit or missed. I think such judgment about as good as a sharp Yankee's *guess*.

We *thought* at first that the Diana was a humbug; like it better since, and better still. Am glad I did not think out in meeting at first. Concord and Hartford have about the same history here. Advice—try, TRY all things first; be not too hasty in condemning. "Do you mean this as a kind of anticipatory apology for the Cuyahoga?" Not a bit of it. I believe it will fully meet all the *reasonable* expectations in regard to it from the first; but it is the theory, the rule that should usually be applied to all, and *may* be needed in regard to it. Another fact. It is undoubtedly true, that some soils and climates are better adapted to some varieties than others. Instance, the Catawba, ten miles inland from the lake, on clayey soil, is "unworthy of cultivation;" it rarely ripens. On the sandy soil along the lake shore it generally ripens; at the islands, on clayey limestone soil, it always ripens, and presents an evidence of quality I have not met with uniformly any where else, and is eminently worthy of cultivation. In comparing the quality of the Catawbas as grown on the sandy soil along the lake shore, I do not think them equal to those grown in the limestone soil about Cincinnati or the islands; but I think our Isabellas are decidedly better than I have seen from either place; not only better in quality, higher flavor, but much larger in size.

While I have you by the button, I feel like saying a few things about the character to be sought in grapes. We don't want them all for the table; a few for wine; a little wine for the stomach's sake. It is not every good table grape that will be a good wine grape, and *vice versa*, (you understand Latin.) The flavor of the table grape may be too subtle to be preserved through the process of fermentation, etc.; so we need a stronger aroma—bouquet, (bouquets have aroma, don't they,) to give character to the wine. But what is wine? the fermented juice of the grape. Not always, you say. Isabella and Concord, etc., you say, won't make wine. Well, that beats me. But you are impatient, so I will stop. Having had my say, I am all attention. You are too tired listening to talk any. Very well; let us take a ride into the city. No, it is too cold and stormy. Then come back again any time between May and November, except when it is too dusty, and we will take a ride and see the sights, for I hold that no man of good taste like you should be willing to die without having seen Cleveland.

[So now we have an *Ex* as well as an *El* Medico. We do not care how much that family increases. In regard to new grapes, it will be several years before a new kind shows what it really is, as grape matters are now conducted. One vine at least ought under all circumstances to be grown for fruit. The Cuyahoga will, no doubt, take its place permanently among good grapes. You have answered all your own questions, and have left us little to do in that way. So it beats you that the Isabella will *not* make a good *pure* wine. Well, now, when you light upon a sample of wine made from Isabella juice without any addition whatever, send it along to our sanctum; we'll have a glass case made for it, and send it down to posterity. We have never yet seen such a thing, neither have we seen a wine-maker who would venture to say that it could be done. The Isabella will make a good pure vinegar, but it will not make a good pure wine. You had better not repeat that invitation for a ride, unless you are in downright earnest about it, for some fine morning we shall be right in your midst.—ED.]

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### ROGERS'S HYBRID, No. 4.

(See *Frontispiece*.)

BY THE EDITOR.

We have lately been several times thwarted in getting up our monthly frontispiece. We had the Creveling grape, but that was destroyed by fire. We had also the Emma Cheney Dahlia, but that too was spoiled. We had, again, a plate of Dailedouze's Seedling Carnations, but the original drawing mysteriously disappeared just at the moment our colorist wanted it. We are patient, but somewhat mistrustful, and hardly know whether it will be safe to say that we have Rogers's Hybrid this month, till we actually see it in print. We feel a deep

interest in these Hybrids, not only as setting at rest the question of the practicability of crossing the native and foreign grape, but as introducing a class of grapes which may hereafter prove of great value. They will also furnish a common ground where the champions of foreign and native grapes may meet in peace. Mr. Rogers's modesty has kept him altogether in the back-ground, and the results of his experiments have not been known and appreciated as they deserve to be. The field of hybridizing grapes has thus far been exclusively occupied by Mr. Rogers and Mr. Allen, and worthily occupied. We hope they will both continue labors so auspiciously begun.

Our frontispiece scarcely does justice to No. 4; the berry is nearly of the right size, but the bunch is usually larger, and often shouldered. "Infant" grapes are seldom or never shouldered; shoulders are the result of age. No. 4 is a cross with the Black Hamburg, and shows it quite distinctly. We have only seen the fruit of this and one other of Mr. Rogers's Hybrids, but he considers it one of the hardiest and most productive of them all. Mr. Wilder, who is familiar with the whole collection, describes No. 4 as follows: "Color, dark purple; clusters large, frequently with shoulders; berries large; flesh tender, sweet, vinous, rich. An early variety, and perfectly hardy." We should be glad to know that these grapes had found their way to every section of the country, in order that their hardiness may be thoroughly tested, for on that will depend in no small measure the value of these very interesting experiments in hybridizing the grape. We have learned with a good deal of pleasure that Mr. Rogers has crossed his Hybrids with the Muscat of Alexandria, the Frontignans, and others, and that some of these seedlings will fruit the coming season; thus we are in a fair way of soon learning how far hybridizing may be carried with profit. An important object to be kept in view, is the working in of sufficient native stamina to enable the vine to withstand the vicissitudes of our climate without becoming a prey to mildew and other fell diseases. In any view of the matter, however, these experiments are full of deep interest.

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## THE PATENT OFFICE REPORT OF 1860.

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

It affords us much pleasure, Mr. Editor, to send you a little synopsis of the Horticultural department of the above-named Report. Especially gratifying must it be to every one interested in horticultural matters to find the considerable space allotted to articles pertaining to Gardening; this is the more pleasant, when we bear in mind the character of former reports emanating from this source. We should not have to go back very many years to find volumes filled with statements from miscellaneous individuals in all parts of the Union, and on most every other subject we would discover something of interest except in the

Horticultural department. The reports issued during the past few years have all been improvements on their predecessors, until that of 1860 is rendered positively striking by the prominence given to Horticulture. All this is very encouraging to those interested in trees and vines, and we live in hopes of seeing a Report from this office which may embrace an essay on Landscape Gardening.

In the preliminary remarks we read, "Cuttings of superior native vines have been received from cultivators and amateurs. These will be propagated with care, and will afford interesting opportunities for making experiments in hybridizing with foreign and other unacclimated varieties." Although not an enthusiast for native grapes, it is very satisfactory to know that there is at the Capitol of the Nation an opportunity of testing all, and giving an impartial report of desirable kinds. That the native grapes should receive the attention of those dwelling in cities, where their vines are somewhat protected from the early frosts and from insects, is, we think, all well and proper; it is to the advantage of every landlord to have a trellis of pruned natives attached to his domicile. Houses on which grape vines are trained always rent to greater advantage, and this also should stimulate the owner who has no horticultural turn; but that the cultivation of native grapes in the middle states will ever prove satisfactory or remunerative on a large scale, we have yet to learn.

But to the Report. "The Department has also given great attention and encouragement to the cultivation of the native grape, and the manufacture of wine therefrom; and there can be no doubt that its exertions have had considerable influence in causing many intelligent persons to engage in this important branch of industry." So far so good. The Patent Office Gardens are the proper place for experiments; but in regard to the wine made from native grapes, we have yet to see the first that we can pronounce good. Selecting Mr. Longworth as the fit representative of American wine manufacture, we obtained direct from him a box containing several bottles of each of his best known native wines, and we are sorry to say that they did not compare with those of French origin, and were only obtainable at a higher price. Our remarks have no application to California, where we understand good wine, particularly the light sparkling wines, are obtainable. On page 29 of the report, we find—"About 135 varieties of grapes are now in the course of experimental culture. Catawba is placed first on the descriptive list; slightly pulpy. Ripening late, it does not succeed well north of Pennsylvania and Ohio; it is the most general reliance for wine making in the regions to which it is adapted." And we can add without hesitation, that the best American wine that it has been our fortune to drink was made from the Catawba, although not at all comparable to wines of French origin, at the same price.

"Concord.—Hardy and productive, fruit large, oval, black, sweetish, though pungent and musky, improving with the age of the vine. Ripens at Washington in the latter part of August; and is a fair table grape, but more desirable for wine-

making." Concord wine we have never tasted, but regard the Concord decidedly the best native grape *at present* for the purposes of general cultivation.

"*Delaware*.—Clusters small and compact; berries small and round, light red, juicy, pulpless, and very sweet; is an excellent table grape, and will become popular for wine-making. It is subject to mildew; has proved a slender grower at Washington, where it ripens late in August; but the testimony of cultivators is conflicting on this head. It is hardy, and adapted to the middle and northern states.

"*Diana*.—Hardy, strong grower, very prolific, ripens south of Boston late in September. Clusters medium size and compact; berries light red, small, round, sweet, and slightly pulpy; keeps well through the winter. Valued for table use, and will become profitable for wine: one of the most desirable." A much better character, we think, than the Diana deserves after trial.

"*Hartford Prolific*.—Hardy, vigorous, and productive; clusters compact, and of medium size; berries round; aroma slightly foxy; flesh sweet and pulpy. Ripens at Washington early in August, and is best adapted to the central states and the north.

"*Isabella*.—Excellent for the table north of Maryland, although inferior in its native South; prolific, pulpy, and sweet. Ripens at Washington in September." Sparkling Isabella wine is very poor stuff, to our mind.

"*Rebecca*.—Clusters long and tapering; berries medium size, oval, green when shaded, of golden hue in the sun, very juicy, sweet, and pulpless. Suited to table use. Prospers south of Massachusetts; best probably in the latitude of Pennsylvania, where it ripens in September. It grows well generally, but very rapidly for the first four years. The vine is somewhat subject to mildew." The last sentence is undoubtedly correct.

"*Union Village*.—Introduced by the Shakers from seeds of the Isabella; best adapted to the central and northern states; growing vigorously and producing, very large berries in large, compact bunches; is pulpy, juicy, sweet. Probably the best native grape in cultivation." Doubtful.

These are the native grapes described, and are the only ones now ready for distribution; they are to be had for nothing by applying to the Patent Office. Among the list of native grapes now in course of propagation, embracing some 60 varieties, we select the following, and would like to know if any of our grape growers have heard of one half of them before—they are new to us. Here are some of them: Dracut Amber, Trollinger, Lincoln, Downer, Sage Grape, Plymouth, Black Fox, Red Fox, Crystal, Mustang, Elbling, Parker's Rocky Mountain Seedling, Wise, Tennessee, Parker's Improved Isabella, Guesta, Gre vadulay, Rulœder, Woodford, Saluda, etc.; so if any body wants a name for a new grape, here is a fine lot. Seriously, Mr. Editor, to use a slang phrase, it is running the whole thing into the ground.

Lamentably meagre is the catalogue of Foreign grapes for distribution; and it

would take several of the new Treasury Fives to induce us to give any one of them a place in our viney. It is stated that they are believed to be of tender origin, and best adapted to regions south of Pennsylvania. We fear the propagator will not be troubled distributing many of them this year. Here they are :

*Hungarian*—Bakater, Chasselas white, Dinka green, Dinka red, Honey white, Funnint, Katarka, Keskesoës, Muscatel green, Muscatel red, Muscatel yellow, Muscatel white, Puisin blue, Paxesin blue, Riner red, Rosas, Schenkem white, Semedria, Sheeptails, Silver white, Todar white, Tokay, Tokay white.

This list, the Report states, is only to be distributed in limited quantities; but owing to none being distributed at the South, where they were intended, we presume, any one fond of experimenting with the new foreigners can, we have no doubt, be supplied. We think it would be useless to attempt them out of doors, north of Pennsylvania. Among the list of foreign vines in course of propagation, we are glad to recognize the Hamburghs, Frontignans, Muscats, etc.; also several of which we have never heard.

Among the plants for distribution, and to be had on proper application, gratis, are, the Osier Willow; although many years in culture in the United States, it is unknown in many regions, and will prosper wherever moist lands prevail. About 8,000 were ready for distribution last spring.

The Carob Tree, propagated from seeds and cuttings from Palestine. About 8,000 were also ready last spring. In addition to its desirableness as a producer of fruit, it is thought that it will prove valuable as a hedge at the South, when judiciously pruned.

"The fruit of this, the Carob tree, is largely exported to Russia, where it is much esteemed as an occasional article of diet, and for a beverage brewed from it. It can probably be raised in every portion of the United States south of Pennsylvania; is an admirable shade tree."

"Sessaban, an evergreen of Syria, and such in the southern states, but a deciduous tree at the north, has a delicate leaf, and a pendant, globular flower, somewhat like the Sycamore ball, and highly odorous. It is esteemed as an ornamental tree, but is chiefly valued as a hedge plant, and is a rapid grower. 3000 ready last spring."

"St. Johnswort, (*Hypericum corymbosum*,) indigenous south, but little known throughout the country, hardy at Washington, and may succeed further north. Ornamental shrub, blooming in early spring. 3000 ready last spring."

"Stone Pine, (*Pinus pinea*,) common in Syria and Southern Europe, but little known in the United States. It is of loose growth, with straggling, pendant branches; the foliage handsome, of bluish tinge."

Arbor Vitæ—Chinese—1000 ready, with an increased number this spring (1862)."

The Siberian is in every respect superior to it. Among the plants in course of propagation for future distribution noticed, are the Colocynth, an annual, creep-

ing vine, to be cultivated as cynilius and cucumbers are; is said to grow luxuriantly on the plains of Sharon, a single vine producing more than one hundred fruit. This plant is possessed of well-known medicinal qualities.

"The Pistachio tree, will only succeed at the south, grows 25 to 30 feet high, bearing a fruit about the size of an olive; the nuts are well known in the European markets."

"The Date, only for the extreme south, where it will prove an evergreen. It attains a height of sixty feet."

"The Prickly Pear, for the central and southern states; fruit about as large as the fig; sweet and juicy, covered with small spines: said to be wholesome."

Squill, (*Scilla maritima*,) bulbs, coated like a common onion, will only succeed in the South; much employed on account of its medicinal qualities.

Olive cuttings for North Carolina, South Carolina, Tennessee, and Florida.

Khalebs, tubers, about the size of hen's eggs, resembling yams, only used when cooked, and much esteemed by the poor of Syria, from whence it was obtained.

Seedless Pomegranate, has highly ornamental properties, producing bright scarlet flowers, semi-double, in autumn. Will thrive in moderately moist soils south of Washington.

It can not be denied that at the present time many of these products lose their interest for us, the people for whose benefit they were obtained being engaged in an effort to overturn the source which was providing them with productions with which their homes would have been beautified and their wealth increased.

Articles on Fertilizers, Irrigation, Bee Culture, Pisciculture, as well as observations on English Husbandry, and on the Cattle Disease, all very properly occupy a considerable portion of the volume. An important paper on Insects injurious to vegetation, especially insects injurious to fruit trees, will not be overlooked by the horticulturist, and only a want of space prevents making valuable extracts therefrom.

Wine making is treated at length, and Grape Culture comes in for a fair share of attention.

"The Culture of Grapes in Graperyes" will be the means, we hope, of disseminating information which will lead to the erection of many of these truly indispensable structures.

"Forests and Trees of North America," is the subject of another paper.

"Tea, its Culture and Management," with a series of illustrations, concludes this interesting volume. A brief notice of the success in growing and maturing gooseberries, by the Horticultural Association of Paterson, N. J., is appended. European plants and cuttings have been obtained, from which berries were grown, one of which (Speedwell) weighed twenty pennyworths, seven grains; and another, produced July 16, 1859, weighing twenty-two pennyworths, nine grains, being the largest of the kind grown, even in England, in the two previous years. The report says, "It is thought that many years will not elapse before the goose-

berry will be produced larger and purer in the United States than in any part of England."

[We participate very cordially in the gratification expressed by Dr. Norris, that some prominence has been given to horticultural subjects by the Patent Office Department. If rightly managed, much good will result to the whole country. We hope the government seed business, however, as at present conducted, will be abandoned at once and forever. Some good things have undoubtedly been distributed, but with them a great mass that never should have emanated from such a source. We are very far from objecting to the distribution of rare and valuable plants and seeds; but it is only a few days since that we received from Washington, done up in a neat paper bag, *three* Windsor Beans! Who could have supposed that a great, wealthy, and enlightened government distributed Windsor Beans to its people in triplets? Out of a dozen packages, there are but two that should have been distributed in this way at all. We solemnly protest against this abuse of the public funds, especially at a time when we are suffering all the privations of a wicked civil war. We speak warmly, but without a particle of ill-feeling. We can not help thinking, however, how much good might be done if this money were appropriated to the employment of suitable persons in the exploration of new fields, many of which would yield the richest horticultural treasure. This would indeed be a worthy employment of the public funds. Is there nobody at Washington who will think of this? Our experience with native wines has been more fortunate than the Doctor's. We have always been careful, however, to compare them only with foreign wines of their own class. We have nothing as yet but dry or sour wines that deserve the name of wine. These, of course, must be compared with German or Rhine wines; and we have two or three that will compare well with them; Mr. Mottier's, for example, will not suffer by the comparison. To judge from what we have seen, it will not belong before we have a very fair Claret. But it must be confessed, that as yet we have very few good wines. Sweet wines we have none. Sparkling Isabella you have well characterized as "very poor stuff;" at least we have seen no other. The best wine that we have seen was made of the Delaware; next, Diana; next, Catawba; though we have seen some from the Lincoln that we are disposed to place somewhere between them. We think the Report right about the Diana; when well ripened it is a delicious grape. It is not free from fault, however. The Union Village is undoubtedly overestimated: it is by no means our best native grape. The lists of grape vines contain little or nothing that is new. The Hungarian list we threw over the fence years ago. Hundreds of others all over the country have tried them, and found them wanting in adaptation to our climate. Good, however, will ultimately come out of the experiments at Washington.—ED.]

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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NOTICE.—We have to request that all business letters be addressed directly to the Proprietors, 37 Park Row. This will prevent much delay, and obviate many mistakes.

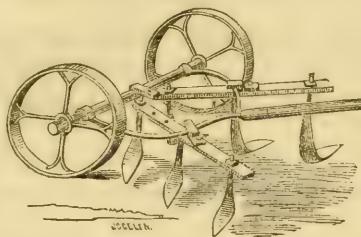
THE EMMA CHENEY DAHLIA.—We have been greatly disappointed in not being able to give this beautiful Dahlia as a Frontispiece. We mean to do so yet for the sake of its merits. We had selected it from among Mr. Richardson's choice collection of seedlings as a representative Dahlia, being, indeed, one that will take a lasting hold on the affections of the amateur. We are fairly in love with the beautiful object. Such of our readers as fail to get Emma Cheney will miss a treasure. While saying this, we do not mean to detract from the loveliness of Carrie Emmons, Debbie de Gray, Jeannie Tomkins, Mary Greene, and others ; they are all charming. Did we not select and name them ? And did we ever give a female name to any plant that was not beautiful and good ? Never mind what that ugly Pratiquer says, but buy *all* the fruits and flowers that we give *female* names to.

A NEW NAME FOR AN OLD PLANT.—Our friend Mac, of No. 9 John St., somewhat noted for his dryness, (we do not mean that he drinks, of course,) proposed lately, that the Virginia Creeper should now be called the Virginia *Runner*—we suppose out of compliment to John B. Floyd and his associates. We wonder if Mr. Prentice, of the Journal, can't say something for Mac.

THE CREVELING GRAPE.—We expected to have presented the Creveling grape last month as a frontispiece, but it was destroyed by fire, and could not be reproduced in time. As an early grape, the Creveling deserves much consideration, especially in localities where but one or two of our best varieties will mature. It is equal to the Isabella, and at least as early as the Hartford Prolific. It has less

of the native aroma, and does not drop its fruit like the latter. During the cold winter of 1860-1 we found it among the hardiest of vines, and we think it will take a wide range of latitude.

**HALSTEAD'S PATENT HOE.**—Last winter we saw at the American Institute a new hand hoe or weeder, which seemed to us to possess merit, and we recommended that the inventor should be requested to have it manufactured for sale. This is now being done by Messrs. Haines and Pell. We present an engraving, which will



give the reader a better idea of the implement than a mere description by words. It can be closed or expanded, and thus adapted to any ordinary width of row. It runs easily, and can be worked by a boy. We have not given it an actual trial in the garden, but we think it is worthy of consideration. Mr. Halstead, the inventor, is a working gardener, and has used it for some time. We believe he has produced something which will be useful to his craft.

**RAISING COFFEE IN ILLINOIS.**—A correspondent, writing from Nauvoo, Ill., asks for information as follows: "I have lately seen an article in an Illinois political newspaper, in which a man from Effingham County, Ill., gives an account of his raising coffee there. He seems to think that he will be able to raise it in good quantity, and in quality nearly equal to the Rio de Janeiro. Can you give me some nearer information about it, or is it perhaps only some humbug, as the like many are circulating?"

We have to say in reply, that coffee can not be grown in Illinois. We can not say, without seeing it, what plant is referred to, but it certainly is not the coffee plant. That is a tropical plant, and can only be grown under glass in this climate.

**COAL ASHES.**—These are often wasted on walks, or left to accumulate for years in unsightly heaps. They are not without some value to the soil, and should find their way to the compost heap rather than be wasted. A correspondent suggests the following use for them: "As coal ashes contain but little of stimulating matter as a manure, it is scarcely considered worth the hauling for that purpose; but applied at the bottom of a grape-vine border, or below the roots of fruit trees, as a layer, for the purpose of drainage, it pays for the trouble. Where small stone,

oyster-shells, etc., can not be easily procured, the coal ashes will answer fully as well, or better even, as my slight experience has proved."—A. K.

A DOZEN GOOD ANNUALS.—A subscriber, whose letter has been mislaid, asks us to furnish him with a list of a dozen good annuals. We have made it up of free blooming kinds, and of the easiest culture. The Schizanthus, Asters, Zinnia, and Balsams must not be grown in close masses; the others may or not, as suits the taste. Here is the list: Phlox Drummondii, Mignonette, Sweet Alyssum, Schizanthus, German Asters, Balsams, Clarkia, Candytuft, Ageratum, Lobelia, (*speciosa*.) Zinnia, Portulaca.

MR. WOOLEY'S VINEYARD.—Mr. Caywood has furnished us with the following additional facts in relation to Mr. Wooley's vineyard, which are not without interest:

"His farm contains 160 acres. His grain crops the past season were as follows: oats 20 acres, rye and wheat 15 acres, and 10 to corn and potatoes; also his usual hay crop. Mr. W. is now over 60 years of age, and with the help of one man and a boy, hired for eight months of the season, has done all the labor of the above crops, including the grapes before mentioned. Mr. Wooley thinks he has devoted one-fourth of the labor of the season to the preparation of a piece of rough land, on which he intends to plant grape vines. He also says he had some inferior grapes, which were not included in the four tons."

#### CATALOGUES, ETC., RECEIVED.

*A. J. Caywood*, Modena, Ulster Co., N. Y.—Fruit and Ornamental Trees, Vines, etc.

Catalogue of the Cream Hill Academic School, with an Agricultural Department, West Cornwall, Conn. S. W. Gold, M.D., and T. S. Gold, A.M., Principals.—In this institution the mind and body are alike cared for; a practice much to be commended.

*W. Brown Smith*, (successor to Thorp, Smith, and Hanchett,) Syracuse, N. Y.—Descriptive Catalogue of Ornamental Trees, Shrubs, Vines, Roses, Dahlias, Verbenas, Greenhouse and Hothouse Plants, etc.

*J. J. Mapes*, New York.—Nitrogenized Super-phosphate of Lime.

*William Elliot*, 31 John St., New York.—Descriptive Catalogue of Vegetable and Flower Seeds, etc.

*J. M. Mattison*, Jacksonville, Tompkins Co., N. Y.—Descriptive Catalogue of Fruit and Ornamental Trees. Also, Catalogue of Dahlias, Verbenas, Fuchsias, Petunias, Geraniums, Greenhouse Plants, Bulbous Roots, etc.

*Lewis Ellsworth & Co.*, Du Page County Nurseries, Napierville, Illinois.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, &c. 1862-3.

The Journal of the New York State Agricultural Society, Feb. & March, 1862.  
*Daughaday & Rennison*, Newburgh, Orange Co., N. Y.—Descriptive Catalogue  
of Bedding and Green-house Plants, Grape Vines, Currants, Strawberries, &c.

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## Correspondence.

**To THE EDITORS OF THE HORTICULTURIST:**—As the propagation of the vine by grafting is attracting attention, I have concluded to read you a chapter of my own experience. There seems to be some difficulty in the way of complete success, and we shall be able to attain the desired end only by a friendly interchange of ideas.

I was pleased at El Medico's partial success, as narrated in the December number of the HORTICULTURIST. That, with the tough subjects he had to work upon, he achieved even a partial success, to me, seems almost wonderful.

It seems that success in grafting the grape, *above ground*, whether before or after the flow of sap, depends upon many conditions and contingencies; for instance, some families of vines are too exuberant in flow of sap, while a few others are too weak for subjects to graft upon. These conditions, I suppose, constitute the objection—want of adaptation in texture of wood may be partly obviated by El Medico's plan of cutting obliquely across the grain of the stock.

But, permit me to give Mr. Miller, El Medico, and the rest of our folks my experience. Last spring, (1861,) in April, I grafted some stocks, Isbellas, *above ground*, which I had previously, first March, taken up and heeled in to retard the flow of sap, and succeeded in making two out of twenty grow. Then I had some wood of the Delaware, Diana, and Anna varieties, which I grafted into short sections—say 6 to 10 inches long of Isabella roots, which were taken from the ground and grafted about the first of June. El Medico will probably be pleased to learn that *these all grew*, a large proportion being Annas, a sort he found so stubborn in his own hands.

My theory is this; the scions were well kept. The roots were out of the ground only long enough for grafting, and being pliant, unlike stocks above ground, were readily made to fit a neatly cut wedge-shaped scion: the temporary detachment of the roots from the soil and cutting them into sections prepared them for the mysterious process of union with the graft. In these last and successful cases, no wax was used, the grafts only being gently tied with bass matting. They all made healthy good plants, and would have made strong ones had the roots been  $\frac{1}{2}$  inch diameter and two feet in length.

G.

[The interest felt in grafting the grape seems not to have abated in the least.

El Medico has struck a sympathetic chord, the vibrations of which have been felt throughout vineyarddom. G.'s article will not fail to interest El Medico. The above was intended to have been in our last issue, but the season is such that it will not be too late for use.—ED.]

MR. PETER B. MEAD:—*Dear Sir*,—In answer to my letter in your August number, you say, “In respect to root-grafted apples, the piece of root upon which they are grafted *gradually dies*,” &c. I have seen this statement two or three times before, but I confess that I was taken aback somewhat at seeing it from the pen of the Editor of the HORTICULTURIST, it is so contrary to my experience. As you would hardly make the assertion without some warrant for it, I am at a loss to account for it, unless the method you have been familiar with has been too deep planting; in that case the plant would of necessity put out roots near the surface, and as these became active and strong by the influence of the atmosphere and the sun's rays, the old root down there in the cold dead earth might, and would probably, die; but as I plant the root only just below the surface, the root I think becomes just as permanent as any part of the tree, not more liable to die than a stock grafted one foot or ten feet from the ground. And why should it be? the root and graft unite just the same; the layers of new wood are formed over the union; and when the tree is of the proper size for transplanting, it is difficult, and generally impossible, to find the place where they unite, for the roots come out all around and obliterate it. It is the practice of all good nurserymen in planting young stocks, I believe, to cut away a part of the root as well as the top, and no intelligent person will contend that it is indispensable that the whole root shall be planted. The question arises then, how much of the root must be left to secure perfect health to the future tree? I should say eight inches is enough for any thing; and as regards the apple, I believe four inches will produce just as healthy and durable a tree, though at first it will not come forward quite as fast. The inference then is, that a piece of root eight inches long is better than the whole root; and if it is better of itself, it is certainly a better subject for grafting. But instead of grafting the piece of wood eight inches long, I cut it into two (and one I consider as good as the other) and graft both, and it passes my wisdom to tell why a piece of root four inches long is sure to gradually decay while a piece of root eight inches long is better than the whole root to graft upon. There may be reasons in favor of budding or grafting above the surface a few inches, but at present I should have no choice were I to set an orchard, provided they were well rooted. And this brings me again to the question of fibrous roots. You say “for where these (*i. e.*, fibrous roots) are duly present, there is never a lack of the other.” Mr. Elliott in his book says, “Grafting on small pieces of roots may answer for growing some varieties in the nursery; but very few, when removed, are found to have made much but *small fibrous roots*, and when planted in the orchard require staking for years, and rarely ever make good trees.” I have seen some

such trees as he describes, though, judging from your statement, you have not, and of all trees I think them the poorest. Yours truly,

GEO. W. DEAN.

[We owe Mr. Dean an apology for the long delay in the appearance of his letter. Put aside with letters from Mr. Bliss and others, they all got mislaid, and have only just been found. Our means for preserving letters at our city room have hitherto been very imperfect, and a source of almost constant annoyance. In regard to root-grafted trees, we have seen so many in which the root had died, and the tree formed a system of roots of its own, that we are not permitted to doubt the fact. We long ago expressed the conviction that too deep planting had much to do with this. If a root-grafted tree is planted so deep that the stock puts out roots of its own, the moment these assume the office of "working roots," one result will inevitably follow, viz., the gradual decay of the piece of root on which the tree is grafted; for it is not possible for a tree to maintain long two systems of roots at one and the same time; one or the other must gradually give way, or cease to be operative. In this case it will matter little whether the piece of root be four or forty inches long, since it is subject to a dominant physical law. If you plant just beneath the surface, the piece of root becomes permanent; but very few do so.

The late Mr. Bridgeman, one of the most observant and thoroughly practical minds we have ever had among us, considered deep planting one of the most prevalent and disastrous evils in American horticulture. He was mainly right. As a matter of choice, we should prefer trees worked a few inches high on vigorous young seedlings. We can not perceive what there is in our statement which should lead you to infer that we have not seen just such trees as those described by Mr. Elliott. All understand what he means by his "small fibrous roots;" we have seen only too many of them. There is nothing in our statement that in the least conflicts with the quotation from Mr. Elliott. Where fibrous roots are "duly present," there will necessarily be present also all needed primary roots. Do you not understand that? In healthy plants these roots always bear a due relation to each other, according to their kind. Have we made this matter plain to you?—ED.]

MR. MEAD,—I have about forty grape vines, planted out last fall; they were layers, and had been transplanted one year. I did not cut them much last fall. Now, would you cut them this spring down to three or four eyes, or let them remain as they are? Truly yours,

C.

[We would now cut them down to three eyes. If they are strong enough to carry two canes, let them do so; if not, rub off the two weakest shoots when three or four inches long, and grow one cane.—ED.]

EDITORS OF THE HORTICULTURIST:—Please let me say a few words to your

hedge admiring readers. Do not plant the Osage Orange where the Isabella Grape has ever been winter killed. Last summer I saw at the extensive nurseries of Smith & Hanchett, of Syracuse, N. Y., the remains of a beautiful Osage hedge, killed the winter preceding. It was a model. Its death was a warning. Part of it had been taken up and replanted to Honey Locust. At the same place is a Honey Locust hedge of the same age; it stood the winter very well, not in the least injured. The Honey Locust takes about a year longer to form a hedge of the same size as the Osage, but it *lasts*. Mr. Beecher, of Erie, Pa., had a long Osage hedge killed the same winter. At the Syracuse Nurseries they have had the Honey Locust under trial for about six years, and are well satisfied with it. They set the plants at eight inches' distance in the row. None of the plants have *died out*, as predicted in Warder's "Hedges and Evergreens." Horticulturists are beginning to see that our country is very large, and it will not do to recommend a fruit for the United States, but for some particular section; so it is with Hedge plants. Where the Osage will stand the winters, it is probably, all things considered, the best plant we have.

Yours as ever, VITIS.

[Making a hedge is a somewhat serious undertaking, and it is wise to ascertain the hardiness and fitness of the plant to be used. The caution of Vitis is timely.—ED.]

EDITOR OF HORTICULTURIST,—Supposing several Rebecca grape vines trained to the rafters of a shed without a roof some six to ten feet from the ground, would it be good or bad policy to shade the Rebecca by training the Concord or some other vine, say about four feet above the roof, or rather the rafters to which the Rebecca vines are fastened?

Please answer in your May number, and oblige, truly yours, C.

[We should consider it decidedly *bad* policy to shade the Rebeccas as you propose. Whatever fruit you might get in that way would in time become quite insipid. A grape vine makes a bad shade even for its own kind.—ED.]

THRIP.—Would you inform me, through the HORTICULTURIST, if there is a remedy or (better) a preventive for the *thrip*? I have two graperies, the one built twelve years and the other ten years ago, and in all that time had no trouble with my vines, except thrip, which I can not keep out, either by syringing with water or aloes, nor tobacco smoke. THRIP.

[The thrip is always troublesome and difficult to get rid of. We have tried several remedies, with more or less success, but the best, and a good one, is the Gishurst Compound. We would advise you to try this.—ED.]

"EGYPT" FOR FRUIT.—*Editor of Horticulturist*:—The peach buds are all right here as yet, (March 8,) and I think we may safely count on a good crop this

season. Peach growing in southern Illinois bids fair to become a lucrative and extensive business. Apples and pears also promise to pay well here.

About \$5,000 worth of fruit trees have been planted in this county during the past five years, mostly from Northern and Eastern nurseries. We have now four small nurseries in Egypt, established at different points on the Illinois Central Railroad.

There is a good chance here for money making in the fruit business, although the greatest results will be attained only by the industrious, practical, intelligent pomologist, with business tact, and considerable capital. Cotton and sorghum will receive much attention here the coming season.

*Union County, Ill., March 8, 1862.*

A. BABCOCK.

[We are glad to hear such a good report from "Egypt." It would seem to be a good place to emigrate to. Let the people go down into Egypt, and multiply and replenish the land, and make it fruitful in all manner of good things. So may it be. What kind of peaches are chiefly planted in Egypt? There can be no doubt you have a fine climate for fruit.—ED.]

MR. MEAD,—Please tell me which is right. S. says if a grape vine stands in a damp place, or low ground, and does not do well, that pasture sods tipped or dumped about the trunk and buried two feet, allowing the foot roots to remain in the damp earth or wet ground, will be as well every way for the vine, as to take my plan, which would be to lift the foot roots out, or raise them to the top of the ground, and then put the two feet of pasture sods about them. Please tell me what you think, and oblige, very truly yours,

C.

[We think your plan decidedly better than that of S. But a better way is not to plant at all in a damp place. Grapes grown in wet ground will inevitably be thick skinned, hard fleshed, and ill-flavored.—ED.]

I HAVE been paying some attention to the strawberry, and would like to know whether they could be sent to your city in a marketable condition, and what the following varieties usually sell at, viz., extra selected berries of Triomphe de Gand, Hooker, and Wilson. These, according to my judgment, are superior to any others out of a considerable number of kinds that I have been testing. What would be the best plan of packing and shipping? Can you give me the names of some commission houses that deal in fruits? Can you inform me where I can procure colored plates of fruits, and at what price?

By answering the above inquiries you will very much oblige

*Masontown, Pa., March 13, 1862.*

Yours truly, G. W. N.

I am making the peach a specialty, and would be pleased to see something practical on the cultivation of the peach in the HORTICULTURIST. G. W. N.

[Strawberries can be sent to New York from your place in good marketable

condition. The kinds you name, selected, sell for from 25 to 75 cents per pint, much depending on their earliness and the season. Put them in square open boxes, and they will carry safely and in good condition. Water is to be preferred to land carriage as a means of transportation. There are a number of reliable commission merchants here, either of whom you could safely employ. Their charge is usually 10 per cent. We can furnish you with a number of colored plates at reasonable prices, according to the subject, and Mr. Dewey of Rochester can also furnish them. Mr. Hovey might probably furnish some. We do not at the moment remember any others. We shall give you ere long the desired information on the Peach. We have a number of trees trained on a modification of the *cordon* system, which thus far we are decidedly pleased with.—ED.]

MR. MEAD:—*Dear Sir*,—Will the cool nights and frosty nights, or the degrees of cold that we generally get after the 15th of March, do any injury to out-door grape vines, if uncovered as soon as the above date? Bright says “uncover when the peach tree is in blossom.” Judd says, “remove the covering when the frosty nights have gone.” A friend of mine says, “he does not believe a vine can be injured, if the cover is removed after the *extreme* cold is over.” If it is better to leave them under the earth or straw till late, say till the middle of May, please tell us why.

R. C., JR.

[No harm will happen to your vines if they are uncovered as soon as the frost is out of the ground; that is, no harm that would not equally happen if they were left covered. The only danger to which they will be liable after this time will be a late frost when in flower, and winter protection is no safeguard against this. We prefer to uncover as soon as the frost is out of the ground. We should be loath to defer it till the middle of May.—ED.]

MESSRS. EDITORS:—Are you aware that we have a Horticultural Society in our town, or rather the towns bordering on our famous Newburgh Bay? Such is the fact, and we congratulate ourselves that said society holds no mean position, in comparison with similar ones on the Hudson River.

This society has been in existence for about one and a half years. We have had no exhibition as yet, with the exception of the *trial* one in October, 1860, where, to use the expression of a visitor from abroad, we “eclipsed every thing on the Hudson.”

But to the subject. We had no fair, as I observed, last year, partly on account of the unsettled condition of our country, and partly other causes unnecessary to mention here. But this year we report ourselves around, and anticipate that we shall be heard from at our fall exhibition, on the 24th, 25th, and 26th of September. We have already a goodly number of members, and our list is constantly

increasing of the substantial and enterprising men of our vicinity. We have chosen for our society the name or title of "The Newburgh Bay Horticultural Society," and, as its name indicates, its operations will be confined to the towns bordering on Newburgh Bay. We hope to be favored with your presence and encouragement, at the time of our general fall exhibition. I say *general*, to distinguish it from the weekly free exhibitions, which we hold each Saturday from June to November. These exhibitions, of course, will be but small affairs, hardly deserving the name, for showing any thing we may have *at the time* that we think rare, beautiful, or interesting, in the way of fruit, flowers, &c.; for you know it is a characteristic of the horticulturist, if he has a rare or interesting production of *his growth*, he is anxious that others should participate in his enjoyment of it.

Thus far for the present. Our society commenced under so favorable auspices, we hope and anticipate it is destined to increase in strength and utility, until it becomes an *institution*, as firmly established as old Beacon Hill, that with silent grandeur overlooks our beautiful bay.

The officers of the society for the current year are: *President*, H. W. Sargent, Esq.; *Vice Presidents*, O. S. Hathaway, Robert Sterling; *Treasurer*, Alfred Post; *Recording Secretary*, Eugene W. Gray; *Corresponding Secretary*, J. C. Rennison; *Executive Committee*, Daniel Smith, J. H. H. Chapman, Charles Dubois, W. D. Barnes, Enoch Carter, Daniel T. Weed, J. F. Van Vort, Henry Cornell, J. M. Barrett, T. H. Roe.

Truly yours,

Newburgh, March 17, 1862.

D. SMITH.

[We can hardly say that we were aware that you had a Horticultural Society in your town, but we are much pleased to be assured of the fact. Any thing that we can do for your Society, we shall do most gladly. Do not let any thing interrupt your yearly exhibitions; least of all this mad rebellion, which horticulture can do its share in putting down by growing a plentiful crop of hemp. You should also have monthly exhibitions; and above all, conversational meetings, especially during the winter months. Newburgh is rich in material for forming a Horticultural Society which shall be preëminently useful. You have good officers, for we recognize nearly all of them as readers of the HORTICULTURIST. In your President, you have a public spirited gentleman who will not let the Society die on his hands. Having thus all the elements of success, you have only to unite in a resolution that you *will* succeed. Our good wishes you have abundantly —ED.]

MR. EDITOR:—Please cause to be inserted in the next number a select list of Dahlias, 25 or 50; the best, in your opinion, and oblige a subscriber.

Sudbury, Vt.

J. M. K.

[In making out this list, we do not hesitate a moment in placing on it Mr.

Richardson's seedlings. Among those named below will also be found some of the best old varieties, and some very fine ones of recent introduction, as follows : Emma Cheney, Mrs. Richardson, J. W. Degrauw, Carrie Emmons, Jeannie Tomkins, Debbie de Gray, Mary Greene, Triomphe de Roubaix, Dr. Duval, Sir H. Havelock, Lady Popham, Grand Duke, Mrs. Edwards, Madame Zahler, Prince Albert, King of Yellows, Imperatrice Eugenie, Lady Paxton, Empress, Miss Caroline, Pre-eminent, Anne Boyleyn, Lollipop, Sir Colin Campbell, Sir Joseph Paxton.—ED.]

DEAR SIR :—Will you oblige one of your readers by stating whether the New York Horticultural Society is now in existence, and if so, has it kept up its organization without interruption since it was instituted in 1818 ?

[The New York Horticultural Society is still in existence, though for the past three years it has done little of public interest. We can hardly say that it has kept up its organization uninterruptedly since 1818 ; certainly not an active organization. Properly managed, it might at this moment be one of the most useful institutions in the country. If it will be of any service to you, we can give you its years of activity, as well as those of its inactivity.—ED.]

MR. EDITOR,—Please ask Mr. Barrett, of Canterbury, what plums he cultivates so successfully for market, and if he does nothing to kill the bugs except by the salt spread on the ground. I had given up trying to get a good crop of plums, except by Ellwanger and Barry's method of jarring the trees and killing them. I have planted plum trees in my poultry yard, hoping to be relieved of the trouble of killing them myself ; but the plum crop of late has been destroyed entirely by the weather, so that I have learned nothing by my experiment. I procured the Lombard plum, to see if the saying was true, that the curelio would not destroy the fruit ; but all plums have failed since then. One more question : Does the rosebug destroy the grape in your region, and how do you keep them off when they swarm, as they will once in ten or twelve years ? Last year they were a pest. My grape vines, except those trellised on some building, were covered with them, the fruit entirely eaten up, and the leaves so eaten as to look brown. I had been told that rosebugs would not eat grapes, it was a mistake, etc. ; so, as I was unusually occupied with sickness in my family and other matters, I concluded to risk it, and, of course, lost my fruit. What is the remedy ? A friend of mine in Windsor, Connecticut, saved his grapes by shaking them off into a pan of water, three times a day for three weeks. But that is a tedious remedy, certainly, though I suppose it paid him. The last general swarming of the troublesome pest, some dozen years ago, an amateur fruit grower of Southwick, Massachusetts, laid his vines on the ground till the cloud of insects passed over, and then tied them up again. I suppose we shall be troubled with them another year or two, when they will pass by for a time. I have seen no

notice of them in the journals, and wonder if other parts of the country are visited thus.

E. A. HOLCOMB, Granby, Conn.

[Will Mr. Barrett please supply the list called for? The rosebug does destroy the grape in our region, at least as far as we permit it. If persistently killed they will, in a few years, become so lessened in numbers as to give comparatively little annoyance. Last year they abounded in nearly all localities. The best remedy is to knock them into a basin of water; it is not so very tedious as would seem. A slight tap on the vine will cause them to fall; but the basin must be held within a foot or so of them; for after falling a distance they generally take to the wing. Your friend was doubly paid for all his trouble. If all would unite in a measure of this kind, the rosebug would soon cease to be an annoyance.—ED.]

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#### THE BROOKLYN HORTICULTURAL SOCIETY.

The Society met March 25th, President Degrauw in the chair.

Among the flowers on the table were a beautiful Double White Flowering Almond from Mr. Dailedouze, a very fine *Acacia Drummondii* from Mr. Bridge- man, a beautiful Bouquet from Mrs. Humphries, and a *Dendrobium nobile* and other plants from parties whose names we forgot.

The subject of the evening was *Pruning*. Mr. Quinn, of Newark, opened the discussion, having furnished himself with trees to illustrate the subject. After some prefatory remarks on the preparation of the soil, he said :

It is a mistake to suppose that a tree whose habit is to bear fruit, will flourish and produce profitable returns yearly, unless the constituents that go to make wood and fruit are regularly supplied to the soil. It is a well-known fact to intelligent fruit growers, that pear trees become more delicate in their habits, in proportion as the quality of their fruit is improved, and, therefore, with an orchard of choice fruit, greater care is required to supply the necessary ingredients than would be called for in those of a coarser character. The idea that a tree once in place can take care of itself, should be dismissed from the minds of all who intend growing fine varieties.

The soil should be disintegrated to at least a depth of two feet, and if the subsoil be tenacious or impervious to water, underdraining should be resorted to, in order to free the soil of standing water on the surface or around the roots. No fruit tree will maintain a healthy condition, when its roots are submerged in water, as a free circulation of air through the soil is absolutely requisite in promoting a vigorous growth. Various opinions are held by growers concerning the proper size to which the holes should be dug in putting out pears, but my own belief is, that the field should be one large hole filled with fine earth. I can commend the following rules to those about to plant trees :

- 1st. Pulverize the soil to a depth of two feet.
- 2d. Keep the soil free from standing water.
- 3d. Allow no unfermented manure to be placed in the hole at the time of planting.
- 4th. A soil that will yield sixty bushels of shelled corn to the acre, will produce paying crops of fruit.

With these few suggestions, we will leave the soil and take up the next most important branch of our subject, pruning. For the pear, the pyramid or conical shape is preferable to all others, for these reasons: 1st. The largest surface is nearest the ground, and, therefore, the less likely to suffer from prevailing winds. 2d. The fruit is less injured in falling from the tree. 3d. Less ground is shaded with the pyramidal than with higher and more spreading forms of growth. 4th. The trunk is not exposed to the direct rays of the sun, and consequently the flow of sap is not accelerated, as would otherwise be the case. These few reasons, with numerous other advantages, might be given, but these mentioned afford sufficient evidence in favor of conical shaped trees.

Two years from the time of budding the young tree is ready to be taken from the nursery row, and consists of one main or center shoot with numerous side shoots or laterals. The most vigorous of those are on the upper part of the centre shoot, while the weakest are near the ground. The plan of pruning should then be directed to check the upward tendency of the sap, so that it will be disseminated in the lower part of the tree, to develop the dormant buds, and increase the strength of the weak branches. I will remark, that in setting out a tree, the weakest side, or that with fewest branches, should be placed facing the south-east, as the strongest growth of wood will be made in that direction. By this means less labor in pruning is required to keep the tree in balance.

To prune for a pyramidal tree, each branch should be longer than the one immediately above it, and the operator should encourage an upward and outward growth. When necessary, a bud may be inserted where a shoot is required to fill up a vacant space. Some varieties, such as the Duchess d'Angoulême, Flemish Beauty, Lawrence, and Bartlett, are naturally inclined to form a pyramid; their growth of wood is regular, and consequently may be made to attain the right shape with little trouble, while other kinds, such as the Winter Nelis, Glout Morceau, and Beurré d'Amanlis, are more difficult to manage, owing to their propensities for irregular growth. For the first named kinds the cut should be made slanting, on the upper side of the shoot, near a wood bud, or, in other words, the operator stands facing the tree, cutting from the upper side, drawing the knife at an angle towards him. The bud in this case should be on the lower side of the shoot, so positioned that the growth from the bud will keep the tree in balance. For the latter class of trees, the cutting depends on the position of the shoots and buds, but, as we said before, the growth should be encouraged upward and outward. Owners should not be over anxious to have a large tree in a few years, but rather

endeavor by cutting back to get a stocky growth and strong branches near the ground. By this method the fruit spurs are formed on the trunk and near the base of the larger branches, and therefore are not liable to be blown off by heavy fall gales.

The question is frequently asked, when should pruning be done? The best answer to that query is, "Prune in winter for wood and summer for fruit," or, in other words, to encourage the growth of wood, prune in winter; to encourage fruit-bearing, prune in summer. At each pruning the same object should be kept in view, the formation of a cone, open enough in the centre to admit air and light freely, and sufficiently compact to withstand heavy wind storms. New beginners are apt to permit a young tree to overbear before it has established itself. It always proves a detrimental practice, weakening the constitution of the tree, and in time producing disease and premature death. A young tree, to maintain its healthy condition, must continue to make new wood, as well as produce fruit; if not, it will soon become sickly. He mentioned the fact that trees badly pruned, and unfruitful, sometimes are brought into bearing by either ringing the bark, or another method, which consists in taking a straight upright shoot, and bending it so that the extreme end may be fastened to its base; this checks the flow of sap, and fruit buds will be developed on the upper line of the arch. He would prune in winter for wood, and in summer for fruit—mostly through March and April.

*Mr. T. W. Field.*—I bought these trees to fill up a gap. They are in different conditions in regard to form. Most trees are defective as they come from the nursery. Branches on a pyramidal tree should not be nearer than six inches, or more than a foot apart. The branches should be as near triform as possible. Cutting should be done when the sap is flowing, so that the wound will heal. If pruned in the fall, the cut should be higher above the bud, as it will infallibly die back. Most trees on Long Island lean to the northeast. All the food that enters into the structure of a pear tree passes through its leaders. The object of pruning is, first, for shape; second, for leaves. Would not root prune a standing tree; would root prune the one in my hand. Most soils are shallow; those on Long Island are not over one foot in depth. You can not pare the soil so close but that you will disturb the mouths of some of the little roots seeking sustenance from the atmosphere. If I wanted to produce fruit early I would root prune. Would prune when setting out, but would not prune a tree growing. If I had a child I would scrub him and clean him, but I would not dig his heart out. Would commence pruning next week, and continue till the second week in May. Branches may be taken away occasionally until the middle of July. Each little rootlet has formed a place for itself, and would not keep company with the others if they could, and if not put in the same way would not live.

In answer to a question, Mr. Field said, the Beurré Diel, Duchesse d'Angoulême, Beurré d'Anjou, in fact, all our best pears do best on the quince. The Bartlett forms a poor union with the quince, because its tendency is to fruit early on

its own stock. There is no greater ornament in a gentleman's grounds than a Bartlett on quince. Would plant the Flemish Beauty always on the quince; it is one of our best pears.

*Mr. Fuller.*—My rule for pruning is to cut a shoot when it needs it. Would cut a vine down to two buds, and make two shoots the next year. The third year train the arms laterally, and take out the buds on the lower side. Grapes grow on the wood that is to grow, not on that that has grown. A vine should not be larger when 100 years old, but more in diameter. Cut the shoots from the arms to two buds. You will get a spur six inches long in twelve years, on short-jointed kinds. You can make one vine cover half an acre if you wait long enough. A vine will bear for 100 feet if kept on a level. I can not get a good lower bud in the renewal system; believe the arm system is the best, and do not approve of the new ones.

*Mr. Peck.*—Why are two arms better than one?

*Mr. Fuller.*—Two arms are not better than one, but the arm system I think the best. The best fruit for wine grows nearest the old wood. I do not think it best to have more than two arms.

*Mr. Peck.*—Are not inexperienced persons, in growing to arms, apt to get one stronger than the other?

*Mr. Fuller.*—Yes, I think so. A trellis should be at least six inches from the fence. Plant your vine two feet from the trellis; bring the vines together at the trellis. A variety of grape vines do not look well on a trellis. Pinch off all laterals, and serve them as you would politicians. Laterals are called thieves, and if not pinched out would rob the main shoot. Do not like to break them out, as it is liable to make dormant buds break. We want as many leaves as we can get, and have them healthy. Rub out the suckers from the old wood. Grapes do not want the sun; if the sun strikes the grape it will not ripen. Can get color, but not flavor. Can make a tendril turn into fruit by pinching off the end when it appears.

After further remarks from Mr. Mead and others, on miscellaneous subjects, the Society adjourned.

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The Society met again April 8, Mr. Howe in the chair.

*Question.*—Which are the best 12 herbaceous plants for city gardens?

*Mr. Fuller.*—*Dielytra spectabilis*, blue *Delphinium*, *Spiraea filipendula*, Double White and Double Red *Lychnis*, Double White *Campanula*, *Campanula grandiflora*, Oriental Poppy, *Phlox*, *Chrysanthemum*, *Pentstemon*.

It was moved, that at the next meeting there be handed in a list of herbaceous plants, of 50 different kinds.

*Question.*—Which is the best time to lay out Arbor Vitæ hedges?

A member answered to-morrow morning at 7 o'clock, which Mr. Burgess endorsed.

*Mr. Burgess.*—I used to kill toads in my strawberry patch. One day I killed one, and it contained 2 caterpillars, 4 snails, 20 wire-worms, and other insects.

*Mr. Fuller.*—I consider every toad in my garden worth five dollars. They can be tamed. My toads follow me in my garden, they are so tame.

*Mr. Burgess.*—Would like to have sparrows; they are good for Dahlias. They catch the larvæ about the flowers. Go in for forcing a law to protect these beneficial animals. Prune roots ten feet from body of tree; every year prune them and feed them; put in good rotten manure. Peat is good for a winter top dressing.

*Mr. Brophy.*—No matter what age the tree is, it needs root-pruning. Why? because it multiplies itself; we find new roots that are necessary to it.

*Mr. Fuller.*—Root pruning increases the number of roots. The roots are only annuals; they die off. No tree can be lifted out of the ground without destroying the roots. All stone fruits will canker if broken. The strawberry is not generally pruned. I cut back half; they can be set out more easily; they feed better. Strictly, they are not perennials; they are biennials. Most all foreign strawberries produce stools or crowns. Foreigners lift themselves out, and are killed in winter. Strawberries are pistillate and staminate; there is no such thing as a stamine, though we have got a way of calling them so.

*Mr. Burgess.*—The most essential thing is to prune trees with a sharp knife. Do not approve of spades or shears.

*Mr. Fuller.*—A cultivator is a good thing to use in an orchard.

*Question.*—Are not many ornamental trees lost by not being pruned at the roots?

*Mr. Fuller.*—Trees are set out like posts, and that is the last of it. If it was not for the sops in gutters, trees would not grow.

Mr. Hill, of Nyack, exhibited some fine paintings.

“ Neglected Native Fruits and Plants” were selected for the next meeting, and the Society adjourned.





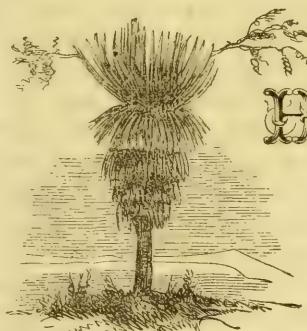


DUCHESSE D'ANGOULEME PEAR.

(Engraved for the *Horticultrist*.)

THE  
HORTICULTURIST.

VOL. XVII.....JUNE, 1862.....NO. CXII.



*Hints on Grape Culture.—XVI.*

**H**AVING gone through with the first year's care of the vineyard, we proceed seriatim with a description of the second year's routine. The treatment of the vine during the second year does not differ very materially from that recommended for the first. If the vines were not pruned in the fall, it must be done early in the spring. It will be necessary to cut all the vines down to three buds; for it is in this way only that canes sufficiently stout

for arms can be obtained, or, indeed, for any good system of training. If the vines were pruned and covered in the fall, they should be uncovered as soon as the frost is out of the ground. The only mishance that can happen to them after this from cold weather will be from frosts that happen when the vines are breaking into flower. The dormant buds are in no danger from freezing after the severity of the winter is past. There is danger, however, in leaving the vines covered till late in the season, especially if left till the buds begin to break. The young shoot is brittle enough at all times, but is rendered still more so by allowing the buds to break under cover, and the handling, under such circumstances, however carefully done, must result in the destruction of many young shoots, and consequent permanent injury of the vine. We mention this matter particularly at this time to meet several cases which have recently come to our knowledge, and also because it has been recommended by some to leave the vines covered till vegetation begins.

The vines having been pruned, plowing will be the next thing in order. This

should be done precisely as recommended for the first year, care being taken not to injure the roots. Whatever crop is intended to be grown between them may then be put in. If strawberries occupy the intervals between the rows of vines, plowing, of course, can not be done; and herein consists the chief objection to growing perennials in the vineyard; it renders high culture quite a difficult matter. In such cases, recourse should be had to the forked spade, with which all the unoccupied ground should be well broken up. A narrow, long-pronged rake is the only implement which should be used among the strawberries. This will loosen the ground, so that all weeds may be easily taken out without injury to the roots of the strawberries. Plowing and spading among strawberries are things that should not be tolerated. The strawberries must not be allowed to make runners.

But to return to the vines. Our object during the second year is to obtain *two* stout canes; and this can easily be done if the vines were good ones when planted, and our directions have been followed out. If, however, for any reason, some of the vines should have grown feebly the first year, they must the second year be grown precisely as we directed for the first; that is to say, we must grow them to a single cane. With this remark, we will leave out of consideration these exceptional cases, and proceed on the supposition that every thing has gone on favorably for the production of two canes. The vine is pruned to three buds. If these are in good condition, the two uppermost will break strongest, and this is what we want. In this case, break off the lowest shoot when some four inches long, that the whole strength of the vine may go to the remaining two. Choose, however, the two strongest shoots, whether these be the two upper or the two lower ones. These two shoots, in reference to pinching in the laterals, stopping the leaders, &c., must be treated just as directed for a single cane. If a trellis has not been put up, two stakes should be put in, one for each cane, though this is not indispensable, as both canes can be tied to the same stake. There is one point, however, connected with growing these two canes, which we wish to impress upon the reader. It is very desirable, in growing the vine upon any of the arm systems, that the buds should be in a uniform line, and not irregularly around the cane, as is often the case from irregular tieing. There is but one certain mode of accomplishing this, and that is by tieing the shoot regularly to one side of the stake, so as to prevent it from deviating from a straight line, at least for four or five feet of its growth. The buds in this case will not only alternate each other uniformly, but the cane will be free from curves and crooks. Something more than mere appearance is concerned in this; for it will be found that the buds will break much more uniformly. The canes may be grown perpendicularly or at an acute angle, but they must preserve a uniform straight line from the point of origin. In other respects, the treatment of the two growing shoots should be the same as directed for the first year. How they should be pruned at

the end of the season will form the subject of our next article, this being already sufficiently long.

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LANDSCAPE ADORNMENT.—No. XXIV. “ORNAMENTAL WATER.”

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 37 Park Row, New York.

WATER is one of the most enlivening features of the landscape, and deserves a prominent position in the list of rural embellishments. It possesses an attraction that is always pleasing, and gives a variety that seems essential in ornamental grounds. It is, however, not accessible to all, and some of our most highly finished places are without so attractive a feature. But there are many places on which can easily be created all that is necessary to produce an effective display of water; and, where it can be had at a reasonable cost, the opportunity should be embraced. We do not favor stagnant pools without life, that evaporate or dry up in the summer's sun, or breed noxious insects and miasmas, but want the bright sparkling water whose motion never ceases—a lake into which, and from which, is always running a living stream. To treat water, as an addition to ornamental grounds, in a successful manner, is no ordinary achievement, but one that requires careful study and an intimate knowledge of natural forms. The outline of an artificial lake is by no means an easy matter to prepare; yet, in many instances, on irregular ground, any disturbance of the natural formation would be a serious mistake. A natural surface, that presents an irregular outline when flooded, is the most preferable, as it is desirable to avoid symmetrical forms; the varying heights of banks, the bold projections, the bays and lesser indentations, all go to make up a varied charm, which no regular figures could present.

A valley through which runs a living stream is the most natural, and perhaps the most proper place to make a lake. It would, in all probability, be below the level of the house, and occupy a position best suited to its easy construction and permanence. The dam or head made to raise the water should be so managed as to remove all appearance of art, and seem to be, as far as possible, a natural shore of the lake; this can be effected by making it of suitable width and planting it. The construction would consist then in the removal from the bottom of the lake of all vegetable matter, turf, and loam, that no decomposition take place: the formation of the shore line, by making it to resemble a natural shore, having projecting headlands and retreating bays, or of an irregular winding form, so managed and planted, that at no point is the whole sheet of water brought into one view.

The preparation of the bottom would then be an' important consideration; and where one desires to study economy, there always is the opportunity to attain just the same results at a low cost. We think the use of masonry for the purpose of

making a pond tight is altogether a mistake ; it is sometimes valuable as making a secure and durable dam, but not necessary to extend it around the entire shore line. It presents an unnatural and formal appearance if exposed, and is always such an item of expense as to induce one to sacrifice extent and variety for the purpose of keeping within a limit of cost. Small ponds are almost always seen at a single view, and generally appear better if treated in a formal manner. Nature rarely executes her works on a small scale, and if imitated thus, it can not be with any satisfactory result.

The operation of puddling with clay or stiff loam, or other earth of a tenacious character, is generally sufficient to make a pond tight, even if resting on a gravelly or sandy strata, the manner of doing which is by thoroughly mixing and kneading the earth with water until it becomes impervious. Sand and gravel may sometimes be mixed with it to good advantage ; this, if put on from two to six inches in thickness, will, as a general rule, be all that is required to prevent leakage from any pressure of water. The sediment that is being constantly deposited would in time check the slow filtration of water into the earth, even if puddling were not resorted to ; puddled earth should not be allowed to dry.

Ponds constructed in this manner can be easily and cheaply made, and their beauty and attractiveness be of a high order ; the shore line will admit of all the variety of treatment consistent with natural examples ; the finely kept lawn may run to the water ; next the bold wooded point ; then the sloping bank, &c., a natural variety scarcely admissible in a walled pond.

An ornamental pond, through which a living stream is flowing, is a source of profit, from the deposit that is brought to it ; the wash of uplands, dead leaves, silt, &c., that annually accumulates, pays a handsome interest on a judicious investment ; it forms a valuable addition to the fertilizers, and one not easily spared when its value is known. Those who have collected the wash of running brooks may be able to estimate what is annually lost by neglect to save the finely pulverized particles held in solution, and which would deposit themselves in the still waters of an ornamental lake—a silver sheet of water that gives life and variety to the landscape, and at the same time contributing to a useful and important purpose.

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#### PRACTICAL PAPERS.—No. II. LET THE BIRDS LIVE!

BY OLAPOD QUILL.

LET the birds live ! Boy or man, why do you so relentlessly pursue unto maiming or death every little beautiful bird that alights in your garden ? God made them to live, to make vocal with their clear wild music this beautiful earth He has given to man—to cheer with their early matin song the husbandman in the early springtime. At the opening of a bright day in May, how sweet, how fresh

is the rich and varied melody of the thrush and the robin red-breast ! The later, more diversified song of the bob-o'-link, as he rises from the waving green of the beautiful meadows of the Hudson, how well is its old familiar song remembered ! The thrush is a great songster ; he is a very talkative gentleman. He is often seen perched upon the highest branches of the maples at the field's border, or the tall elms by the roadside. There is a sort of consciousness about the russet-coated fellow, which almost every one must have observed. He seems to know that you are planting corn, and he tells you as plainly as he can, in his own song-words, "to put it in, cover it up, cover it up, put it in," &c., saying just what one imagines he would say if he could talk like men. I recollect once a neighbor and friend of mine, who was planting corn by the roadside, took the oft-repeated lay of a talkative thrush, who had perched himself near by, to enforce a lesson of energy upon a tardy though shrewd boy, who was dropping the corn in the hills. "Do you hear what that bird says?" said the farmer to the boy, whose name was Langdon. "No, sir, I do not." "Well, he says, 'Drop faster, Lang, drop faster ; put in the corn ; be quick, be quick !'" This practical lesson, so pleasantly enforced, not only quickened the physical energies of the boy, but awoke a new train of ideas in his mind, which, but for the bird, he might never have had. Upon coming into the field, in the afternoon, the particularly pleasant smile of Langdon arrested the attention of his employer, who remarked, "What pleases you so much this afternoon?" "What the bird says this *afternoon*. He sings another tune now." "Well, what is it?" The boy quickly replied, "Joe, pay Lang half a dollar ! Joe, pay Lang half a dollar !"

The corn was planted, Lang had his half dollar, all parties were satisfied, and the bird was voted a pattern of industry. Should not such a bird be spared the fatal shot from the fowler's gun ? Certainly, if for no other reason than cheering on to industry, and enlivening the hours of daily labor, he should live to sing the same old song by the shores of the Mystic for years yet to come. But he does more than enliven a dull hour by his sweet song ; he is a valuable apprentice in the field of the orchardist ; he is a worker, a destructive force that needs no apparatus to set it in motion ; he is ever ready to act in obedience to his natural instincts.

In many of our field birds is seen a result of instinct that, to the uninitiated, seems almost wonderful in itself. I have seen one single pair of thrushes, who had made a nest in my garden, destroy upwards of *three hundred* of caterpillars of a single morning, or in the short period of three hours. Now, if they would destroy such a number in the short space of three hours, of a morning, is it unreasonable to suppose the same pair of birds, with the wants of a rising family to supply, would not, in the course of a single day, destroy six hundred caterpillars ?

I think my estimate will be received as fair and reliable. Now I esteem a pair of thrushes and golden robins as almost equal to one hand at killing caterpillars per day ; the birds are not afraid of killing the worm, while some farm laborers

had much rather eat plum pudding within doors than kill these troublesome fellows with their fingers out of doors.

Therefore we say, spare the birds in the garden. Who has not watched with much pleasure the labor of one robin to take care of the little fledgelings who have just left the parental nest, and are seen every morning hopping up and down the gravelled road, or near the fountain? Do you not hear their familiar "pip-pup-pip," as, with wings drooping through helplessness, they utter their morning cry for food! I have seen one old male bird, in the space of a single hour, catch and give to its young fifteen large caterpillars.

The robin is one of the most industrious of our familiar household birds; and, as he is so great a friend to man, should find in man a generous protector; and we are pleased to know that our farmers, particularly in Massachusetts, are taking more effective measures for the protection of the birds. It is high time that long-legged, half-grown boys, had a better business than prowling through grass lands, over gardens, and about houses, shooting every robin and blue-bird, and every other inoffensive little bird to be seen. Let our yeomanry unite in passing a law, with penalties annexed, against the practice of this wanton, useless sport, and it will cease. In the economy of nature, these little winged ones play a most important part, and are of the most incalculable benefit to the husbandman. Several other reasons why they should be protected and loved, instead of maimed, driven away, and shot, I will tell you in my next paper.

[We are most decidedly in favor of stringent laws for the protection of birds. In some of the states there are already good laws on the statute books to meet the case; but, unfortunately, public sentiment is mainly wrong here. There is a very prevalent opinion that birds are not the friends of the fruit-grower; but this is undoubtedly a great mistake. It is true that some birds eat our cherries and strawberries, the cat bird especially; but even these more than compensate us in the destruction of myriads of insects that, if left to themselves, would well-nigh destroy every thing we grow. Let the birds, then, be protected from unnecessary destruction.—ED.]

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### THE DELAWARE GRAPE.

BY JOHN E. MOTTIER, CINCINNATI, OHIO.

MR. EDITOR:—If these few remarks about the Delaware are worthy of a place in your valuable journal, you may insert them. The first notice I took of the Delaware grape was in 1857, on a visit to Mr. Schneike, at Mount Adam, on Mr. Longworth's place. I found his entire crop of Catawba and other varieties destroyed by the mildew and rot, while the Delaware stood perfectly sound, without the least appearance of disease, although surrounded by the Catawba, which was

almost entirely destroyed. Since that time I have grafted and planted the Delaware as fast as I could possibly get the plants. I shall plant largely this spring, because I think it is the best hardy grape we have, either for wine or table use, growing strong, ripening two or three weeks earlier than the Catawba, the berries hanging longer on the vine after they are ripe, and the leaves remaining on the vine longer than is the case with others. The last season was unfavorable for the grape crop, as there was too much rain. My Delawares did well, being the only kind not affected by the mildew and rot. I lost nearly one-half of my Catawba crop, while the Cape, (that never suffers as much,) Herbemont, Isabella, Union Village, and other varieties, all suffered badly. I think the Delaware, though the berry is smaller than the Catawba, will turn out as much wine to the acre, and of a superior quality. I am fully of the opinion that the Delaware is the best of all our hardy grapes, either for wine or the table. As for my own taste, I have never tasted any grape that I like as well as I do the Delaware; neither have I seen any one who has ever tasted it who did not agree that it was the best grape they had ever tasted. I place it at the head of all the grapes, as the best table grape as well as the best wine grape; as an early ripener, as hardening and ripening the wood to the end of the growth, and possessing a vigorous habit, and keeping its leaves on longer than any other variety.

[This testimony, from one of the largest and best vineyardists in the country, goes strongly to confirm what we have heretofore said of the Delaware, and, of course, it is very gratifying. We think we have placed it rightly.—ED.]

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#### WATERING SPECIMEN PLANTS.

BY A. VEITCH, NEW HAVEN, CONN.

I do not know that any thing new can be said upon watering plants; but as it is a subject of quite as much importance as some which engage the attention of horticulturists, it may not be amiss to state a few facts relating thereto, even at the risk of being considered pedantic. And, perhaps, it would be greatly to the advantage of many were they to bestow a little more attention upon such common-place matters as the one now under consideration, rather than constantly hunting after some new thing, as intangible, perhaps, as "the last extract of bones" or "essence of guano."

But it may be said, every body knows that plants ought to be watered when they are dry, and never when they are not. So far so good; but the fact remains to be accounted for, how it is that one man acts upon this rule, as he thinks, without attaining his object, while another does so with the most striking evidences of success? This may be accounted for by supposing that a plant, from appearances, may be watered in such a way as to defeat the object aimed at. Suppose

it so situated as not to have the mould towards the bottom of the pot deprived of its moisture, while near the surface it is comparatively wet, or the reverse, excepting by the ordinary process of evaporation from natural causes. In these circumstances it would often appear dry, while, perhaps, a few inches below the surface it may be in a state far more conducive to its well-being than were it to receive more water than what would be necessary to wet that portion of the ball only which is dry.

One of the best growers of hard-wooded plants I have yet been acquainted with, watered on some such a plan as this. He knew from experience, as all gardeners might know, that the mould in the pots, in ordinary circumstances, becomes soonest dry on the surface; and to meet the case fully, he gave the plants as much water at one time as thoroughly to penetrate the entire ball, and the next only as much as to affect the driest part toward the surface. By closely adhering to this practice, as he did, altered circumstances not intervening to cause a change, he proved to the satisfaction of all the correctness of the plan by the ends obtained, and thereby raised himself to a high place indeed, as a grower of plants, especially Cape Heaths, Epacris, and Azaleas.

But how, it may be asked, are we to know whether a plant is dry or not, unless as indicated by the state of the mould on the surface? It is not difficult at all; and by way of explaining how, let me state, in few words, a test communicated to me many years ago by R. Veitch, I believe a discovery of his own. It is this: An empty pot, when gently struck with any object—the knuckle, for example—has a ringing, and what is called an empty sound. If filled with dry mould it will have much the same sound; but if the mould is well watered, thereby filling up the interspaces, it will then have a solid sound. If, then, in the practice of watering, any difficulty should be felt with individual cases as to whether they are dry or not, by this means ninety-nine cases in the hundred might be satisfactorily settled, and the conclusion come to that plants sometimes require to be watered when they do not appear dry; and sometimes it ought to be withheld when seemingly they are in want of it.

As a general thing, plants should be potted so as to leave sufficient space to hold as much water at once as they require, as to be necessitated to water twice before giving enough is a serious consideration indeed where time is scarce and labor dear. Sometimes it has been recommended to elevate the balls of hard-wooded plants a little every time they are shifted; but when this is done great care will be necessary not to have the pots too full, as, without more than ordinary caution, the most of plants would be apt to suffer unnecessarily from drought. I am aware the system of elevating plants so as to stand upon "little hillocks" is an old one, and has the advantage of being "well recommended," but unless in the case of some varieties of the heath—*E. depressa*, *Banksiana*, or *tricolor*, and its congeners; or those which, in their natural habits, grow in the fissures of rocks, or adown the arid slopes of the Cape. These, by being raised a little, will be

less liable to damp at the neck. But the free growing varieties generally, such as *Bergiana*, *prægnans*, and *ventricosa*, need no such prominent situations, and are all the better for being potted in the ordinary way. In a country like this especially, and where the sun pours down his rays with such intensity as to make almost every green thing "languish," the practice can not be defended on any principle of utility, but rather decried as unnecessarily exposing the roots of the plants. In the case of heaths particularly, I believe that more of those truly beautiful plants die for want of proper attention in watering than from any other cause.

It therefore follows, there are some things to be avoided that plants in pots may be sufficiently supplied with water, and some signs observed which indicate their condition as to when, and how much to give. Above all, punctuality in attending to their wants is the great and principal cause of success. Without this the most judicious selection of moulds to grow them in, as well as every other attention, will be of little avail; while with it, other things being equal, success may reward the labors of the most humble laborer as well as him whose business it has been from his youth up to learn all about their ways, even to the anticipating of their wants. It may not be that all are permitted to hold such intimate fellowship with their plants as Tennyson says some one had with his "Talking Oak," which, for kindnesses received, in a transport of delight is reported to have said :

"Hard wood I am, and wrinkled rind,  
But yet my sap was stirred,  
And even into my inmost ring  
A pleasure I discerned,  
Like those blind motions of the spring  
That show the year is turned."

And so it may be with those who, by kind and considerate treatment, strive to be on good terms with their plants. They will be rewarded with such manifestations of gratitude as they are capable of showing, which will be a satisfaction to all concerned, as well as to those who only stand and look on; while the attachment thus created will grow and strengthen until the fiction of the poet begins to look so like the sober truth of the philosopher that their various opinions relating to such subjects might almost be "woven into one."

[A very important subject, philosophically treated. There is probably nothing connected with the culture of plants in pots more deserving of consideration. A plant that has once suffered for the want of water, seldom or never fully recovers its pristine condition. The evils that result from overwatering may be controlled in a great measure by thorough drainage; the opposite extreme can only be avoided by careful attention. A very common and very bad practice is to fill the pot quite to the rim with earth; the top of the pot should always hold water enough

to go through the ball of earth. There can, in this case, be no danger from over-watering if the drainage is right. We should be glad to hear more on this subject.—ED.]

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## OSAGE ORANGE HEDGES.—NO. II.

BY "OUT WEST."

PREMISING that the hedge has been successfully planted, the first thing that will claim attention will be to prevent the disastrous effects of drought, if it occurs during the early part of the season. Doubtless, the most efficient mode that would occur to the mind of the intelligent cultivator, would be mulching. It would certainly prove efficacious, if properly done; but when it comes to mulching several hundred rods of hedge, which often has to be done, especially on our prairies, it becomes rather a formidable task; because the material for mulching so large an amount of hedge can not be very readily obtained. We will state a plan which we have seen adopted, and which proved to be an efficient one. It can be adopted, too, to prevent the ill effects of alternate thawing and freezing during winter, which often occurs in this western country. Our plan is simply to plow along the hedge, with a large mold-board plow, throwing a couple of furrows over the plants, from each side of the hedgerow. When there is no further danger to be feared from the drought, the soil can be partially thrown from the plants by a small mold-board plow, and then finished with the hoe. Cultivate well during the summer to keep down weeds, and to insure a healthy and vigorous growth. This is of the utmost importance, and should not be neglected.

This brings us to the trimming, which is the most important part of the whole operation of making a *good* hedge, and should receive that attention from those who contemplate hedging, that it imperatively demands; and there is, too, more diversity of opinion on this part of the subject, than any other connected with the whole operation. We will state our plan, founded on six or seven years' experience; and would ask others, who have been successful, to do likewise, as it is only by a thorough discussion of the subject, disclosing the experience of those who have been successful, that the proper method can be obtained. *Never* cut the hedge during the first season's growth. The reason for this is evident. The plant *must become well established* before any trimming is done at all. For this reason we recommend to do no cutting until the fall of the *second* year. There are two exceptions to the latter course. One is, where the plants are growing in an unusually *fertile* soil. The other, where the season in which the hedge is set is an unusually moist one. In either case, the hedge will make nearly as vigorous a growth in a single season, as it would in two, under ordinary circumstances. We know it will be a difficult task to convince those who hold to preconceived opinions on the subject; but we only ask a fair and impartial trial, to convince

the most incredulous. It is immaterial whether the plants are cut off in the fall, or left to be done early the following spring, if they are to be mulched for protection during winter. It will always be a benefit to mulch for winter protection, but in many parts of the country it will not be found actually necessary; but in many sections of the *western* States, alternate thawing and freezing are the cause of much trouble and expense that might be avoided by using proper precaution; but there are seasons here, however, when no damage is done. If the plants are *not* to receive a covering in winter, do not cut them back till spring.

The cultivation in after seasons must be as efficient as during the first one. We have seen it recommended to sow grass seed along the hedge, after the lapse of a few years. We have never tried it, but think it quite practicable. We would not seed it until about the fifth year. As to implements for trimming, we desire nothing better than a good *brush scythe* for the first three seasons. After that length of time it will be necessary to have a knife that is manufactured especially for trimming hedges. If the hedge gets two seasons' growth before commencing to trim, as we think it should have, cut down to within three inches of the ground. By the fifteenth or twentieth of *June*, the plants should make a vigorous growth. Again cut to within *four inches* of the previous cutting. Choose a *moist* and *cloudy* day for this, if practicable; but it will not be necessary to let it go undone, if the weather is fine, as there is but little difference between the two conditions. About the middle of *August*, cut down to within *four inches* of that done in June. After frost has killed the foliage, and vegetation ceased, again cut to within *four inches* of the previous August cutting. This will leave the hedge about one foot high, and will have formed a fine base of lateral branches. No more trimming will be necessary until the following June, when the same course is to be pursued during the season, and each following one, as recommended for the first. If it is desirable to cut back at the end of the first season, cut as close to the ground as possible in the spring, and do not cut again until the following fall or spring, when it may be cut to within *three inches* of the previous cutting; and then pursue the same course as recommended for the other. This course, carefully followed up, will place the hedge one foot in height the fall of the third season; and each succeeding year an additional foot to the height of the hedge. It may appear tedious, but we feel satisfied it is the most proper way. After it has attained the height necessary to form a good barrier, it need not be cut but once a year, and that in the fall. The reason for cutting it in early fall is, that it can be done with half the labor it otherwise would require, if deferred until spring, and the wood become hardened.

We have said nothing about trimming the side of the hedge. The growth of the Osage Orange tends so strongly upward, that the hedge requires but very little trimming at the sides, unless it is desirable to keep the hedge within a limited space. If this is the case, the laterals will require some thinning out. If the ends of the laterals are merely trimmed, it will cause too dense a growth, shading

the interior of the hedge too much. There will likewise be laterals that will require cutting out entirely, but not very many; and again others that have a tendency to grow more vigorously than some below them. These must be shortened in, to prevent shading those below them. These directions, carefully followed up, can not otherwise than insure success. Many persons will doubtless think these recommendations radical; but such is the vigor of the Osage Orange, if allowed to become *well established*, that it will not suffer in diminution of growth for several years.

We shall have to state briefly our objections to methods generally adopted, as this article is already much longer than we anticipated. Some persons practice cutting off the tops of the plants one foot from the ground the first season. (That we may not appear ambiguous, we will state that in speaking of cutting the plants the first season, we mean in the fall after vegetation has ceased, or the following spring.) Others let the plants grow two seasons, and then cut off the plants two feet from the ground, and the following season add two more feet to it; and more likely than otherwise, it will be the last. The same objection will apply to both of these methods. Those who have seen the Osage Orange growing, can not have failed to notice its tendency to grow upward; no matter whether it is cut off at two *inches* or two *feet* from the ground, there will be only two or three vigorous shoots at the top, with a few laterals at the side. Therefore, by adopting the plan of cutting off at one foot or two feet, as the case may be, there will be a space of several inches (more or less, according to the height the canes are cut) that will be entirely bare of laterals. Besides looking unsightly, the licheness of the wood in its growing state will allow it to be bent to the ground, affording a fine opportunity to any one who might desire to test the quality of the fruit growing in our garden or orchard.

[We have to thank "Out West" for the continuation of his article on Osage Orange hedges, which has enhanced its value very much. His directions are plain enough to enable any body to make a good hedge. We shall be glad to hear from him again.—ED.]

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#### AN HOUR IN THE VINEYARD.

BY JOHN S. REID,

BANKS OF THE WHITE WATER, FAYETTE COUNTY, IND.

THE spring having opened in this region of our beloved country, like a cold and surly master, the work in the vineyard this season is at least two weeks behind; but, with May, came balmy gales and gentle showers, and the leaf and blossom of the peach, pear, and apple began to show themselves in our midst, and the blue-bird and robin disported among their branches.

During one of these balmy evenings, seated in my summer house, which overlooks the vineyard and orchard, musing on the past, and prospecting for the future, the HORTICULTURIST, ever a welcome visitor, was announced as having come; and laying aside all the day-dreams in which I was then indulging, at once I shook hands with the long expected, and sat down to converse with the welcome friend.

After perusing your excellent and practical "Hints on Grape Culture," which, by-the-by, are worth to the amateur the price of the volume, I hastily ran over the contents, and my eye alighted on the rather unique title of "What's in a Name?" and turning over to the text, found an article by Pratiquer, on what might be called the misnomer of "Grape Vines." With him, I have often thought of the propriety of some one revising the nomenclature of our native grape vines, and giving to each one such a classic name as would indicate its original locality, or place of birth, its hardiness, and bearing quality, as well as the real intrinsic merit of the vine, for wine or dessert. But, alas! I have found no one bold enough, and sufficiently versed in the learning of the schools, to perfect my plan. Being like him, also, an amateur cultivator of the grape; and having something of a weakness for the cultivation of this fruit, I have spent some time and money in endeavoring to obtain either a new variety of undoubted merit from the seed, or by hunting up some unknown vine, whose luscious berries induced the truant school boy to forsake his learning and abandon his Greek and Latin for its tempting clusters; at last I deemed that the "Eureka" was mine, and having a very favorite daughter, in naming the new stranger, I thought I could not do better than promise her the name. I had, also, some other new grape seedling vines, and having some more young daughters, equally favorites with the writer, I promised them each a vine, and that they should stand little godmothers for them on the day of their christening; hence you was correct, Mr. Editor, in saying that I had not fully named my vine. But I see no reason why we may not call our favorite grape vines after the ladies of our country, as well as the English and French, &c., who name their finest flowers after theirs. I find, also, that many of our finest foreign pears are named after the ladies, such as the Duchesse d'Angoulême, Madeline, Marie Louise, Duchesse d'Orleans, &c.

My grape vines, this season, have broken the bud splendidly, nearly all sound, and the indications are, that there will be an extra crop. The finer varieties, such as Delaware, Clara, Rebecca, Anna, Union Village, still survive the winter, but show no sign of fruit, although they are now three years old. Every one cost me a high price, and were sold as No. 1 vines. On the other hand, I had Clinton's which fruited from the slip the second year, and some Catawbas, from the layer, which fruited the first.

Referring to the grafting-wax recipe in your March number, allow me to say, that I have made some of it, and that it is all that you represent it, I can with confidence assert. I have grafted with it, and the grafts seem to be alive. I have

stopped the bleeding of vines with it, healed the cut-wounds of trees, and covered the places on young trees barked by rabbits, and all seemingly doing well.

Apropos about wine! You were right in the selection of the wine sent you by me. The red-cork was, however, the dearest in price, by almost double; nor can you obtain much of such a quality from a small vineyard like mine, (one acre,) as it requires the very best and ripest grapes to produce it, and very few persons will pay the price which it ought to command in market.

This season, I sent on to Dr. Grant, and received some of his choicest vines, both as to growth and quality. By another year, I can better tell of their worth than now.

Some three years ago, I received a present of a small package of grape seeds from Texas, the fruit of which was reported very fine. The seeds I sowed under glass, and raised, the first year, over fifty plants; but the second and third winters, notwithstanding all my care, thinned them out so, that almost none remains alive. I have the Texas Oak Leaf in fruit, but whether it will be able to mature it is in darkness. Some of my seedlings will fruit this season from present indications, and the one which I intended calling the "Anna" ought to show its true character this year.

Perhaps Pratiquer may not be far wrong in saying that I had named my grape the "Anna," for by reference to the August number of the *HORTICULTURIST*, I wrote of *it* as already named; but on receipt of that number, and your suggestions as to the propriety of continuing *this* name, and being acquainted with the practice of scientific men allowing the first discoverer, producer, &c., mentioned by Pratiquer, to name the new stranger at once, I yielded the palm of honor to Dr. Grant; and as my daughter, after whom I named the grape vine, had a middle name—Harriet—I thought that this was equally as pretty, and if the vine proved sufficiently good, this should be its name. This season will test the question.

My Canada grape, which was named the "Wellington" by the fair donor, is still alive, and doing well, and ought to show fruit this fall. The vine appears to be tender, at least, so far, by me; the Western winter is too severe on the young wood, hence I had to cover it up during the winter. Its leaf indicates a fine variety of fruit.

Having lost two very fine pear trees this spring, with what may be called the dry rot at the root, can you or any of your correspondents inform me of a remedy which, if applied early, would prevent its extension all over the rootlets, and save the tree.

The trees were the Duchesse d'Angoulême; and up to the time of leafing showed no sign of disease. When examined, the roots were almost covered with a white fungus, and broke off brittle and dry.

In the May number, a writer talks of the application of the flour of sulphur

to the roots of the peach, as a cure or prevention of the worm. I have used this for several years, and found it beneficial, but not a prevention.

The civil war, which we all deeply regret, may be productive of one good, which is, that it brings in contact, not only on the battle field, but in the hall and the cottage, the bone and sinew of both sections of the Union, so that before they part, each will have formed a more friendly and truer opinion of one another. My friend Capt. Walker, of the 2d Indiana Cavalry, sent me, from the "Hermitage" at Nashville, two beautiful cedars, obtained from the homestead of the old hero, who now sleeps so calmly amidst the din of battle. I will cherish them in remembrance of him who was his country's best and firmest friend.

I have also a grape vine sent to me by General Pitt, of Texas, sent in the sunny days of peace and happiness. Alas! that the designs and actions of bad men should thus destroy the hopes and happiness of the faithful and true.

[We too are at least two weeks behind in spring, besides suffering from a drought. It is very gratifying to know that you approve our "Hints on Grape Culture." So far as the amateur at least is concerned, there is nothing at present that can take their place. They are entirely the result of our own experience, with no foisting in of pretty foreign theories and modes unsuited to our native vines and climate. We had undertaken the revision of our vine nomenclature, but the labor was so great that we were compelled to put it off to a time of leisure. We think, however, we are quite right about the female names; being somewhat of a ladies' man, how could we be otherwise? The grafting-wax is undoubtedly what we represented it; we never endorse a thing outside of our personal knowledge. We are pleased to know that you found it as represented. We know of no remedy for your pear trees except taking them up, washing the roots, pruning them, and planting again in fresh soil. This dry rot is frequently caused by the use of long manure. If the red-cork wine cost nearly double, it was more than twice as good, and hence the cheapest of the two. We are sorry enough our bottle is gone!—Ed.]

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#### THE "WEED AND INSECT DESTROYER" ASSOCIATION.

BY G. H. B., NAZARETH, PA.

OUR "Weed and Insect Destroyer" Association, as stated in the last June number of the HORTICULTURIST, has proved to be a wholesome movement to our neighborhood, as the people begin to see that feeding the birds becomes a *monopoly of their services* to the feeder. Bird-feeding, therefore, becomes general here, and it is probable that, within a few years to come, we shall have all the birds of the state congregated in our county, except feeding be practiced elsewhere.

We have added now to our flock of workers also the crow by domesticating it,

and find it very important to be employed in orchards as a powerful grub and mouse destroyer.

A farmer at our elbow, who was advised to shoot a bird occasionally for the purpose of ascertaining if it was an injurious bird or not, by opening its craw, went to his cornfield in May last with his gun, there hid in a bush, and soon found a number of quails nearing, and apparently in the very act of pulling up the sprouted corn. He shot two of them, and on his way home killed also a robin, the very bird that took some of his cherries last year. The crows were examined, but, to his surprise, no corn nor cherries were found in them, but only worms and grubs, the very things that had destroyed his corn. And as he now wished our opinion and advice on the subject, we directed him that, whenever he should again be vexed at the birds, to load his gun as usual, but leave out the shot, (the lead,) and fire away at them as often as he pleased.

I was happy to find in the Philadelphia *Saturday Evening Post* of the 4th inst., an article similar to mine as pointed to above. You will find it inclosed.

But before I close this chapter on birds, I wish to draw attention to another little winged and much-abused animal; and although not a bird, its great usefulness in destroying mosquitoes is generally very little appreciated or even known; *we mean the bat.*

In localities where mosquitoes are plenty and annoying, we would recommend to keep one or two of them in a cage or little box, and before bedtime let them fly through the house, closing the windows, when they will free every room in the house of that well-known torment, the mosquitoes, in less than ten minutes, after which they may be caught and reaged.

The dread which women have of this little harmless creature is *founded on fable.*

We give the above from our experiments with the bats.

[There can be no doubt that G. H. B. is entirely right with his "Weed and Insect Destroyer" Association. Every village should have an association of this kind. The birds may occasionally take a little corn, or a few cherries and strawberries; but what of that? Do they not consume millions of noxious insects that would otherwise destroy all our fruit? The good that they do preponderates so immensely over the harm they occasion, that this alone should insure their protection against wanton destruction. Then they are so pretty and sing so sweetly that we should do every thing in our power to induce them to congregate around our homes.—The suggestion in regard to the bat is to us a very novel one. We hope some of our readers will give the bats a trial. We have no doubt they have tried the mosquitoes to their entire satisfaction: we have.—Ed.]

## A COLD VINYER AND SOME VISITS.

BY GEORGE PEPPER NORRIS, WILMINGTON, DELAWARE.

THE cold vinery under the care of James Matheson, whose name has become familiar to the horticultural public by means of his various essays on grape growing, deserves more than a passing notice. This house is a lean-to, 60 feet long by 25 wide, built in an old stone quarry under the lee of a hill, occupying one of the most sheltered positions imaginable. The house is principally noticeable on account of great length of rafter, being over 27 feet, thus affording a fine opportunity of developing the vines on the spur system; and nobly has this been taken advantage of by this enterprising gardener. The vines are planted 4 feet apart, and are 5 years old this spring, (1862;) they are now as thick around as a man's arm, and for fine appearance exceed any thing it has been our fortune to meet with. The first year they were cut back to 18 inches; the second, 7 feet of wood was allowed to remain; the third about 4 feet; the fourth, 2 feet; and last year 18 inches. On one of these vines a bunch of the well-known variety, Muscat of Alexandria, was grown weighing over 9 pounds, last season; in addition to this magnificent bunch, about 50 pounds of fruit was taken. From a white Syrian, Mr. Matheson expects a twelve pound bunch this year; and we think he will have it, as he has the wood. These vines were one year old when planted, the border being inside and outside; the vines planted about 18 inches from the front wall. The soil is naturally well adapted for the culture of the grape, being a sandy loam, and the border evinces careful preparation by skillful hands. The house is essentially a cold house, although provided with a flue. Artificial heat is not resorted to, to forward the vines; the situation of the house is so protected that the vines start considerably earlier than they would in a more exposed position.

The vinery of Mr. Joseph Lovering, on the old York road, near Philadelphia, as well as that at the former residence of John Tucker, Esq., both furnish good specimens of the curvilinear style.

Mr. Lovering's house is 80 feet long by 24 wide, and 24 high; 22 vines are grown on each side on the spur system, with the border inside and outside. About thirty pounds of fruit are taken annually from each vine. Forcing is not resorted to, and the hot water apparatus only used for the purpose of excluding frost. The vines break about the middle of March, and fruit is in season from the middle of August until Christmas. The house is a costly structure, and will not be copied except by those of abundant means, although for beauty of appearance, especially when the vines are in a fruiting condition, it will compare favorably with any house that we have seen. Ventilation is effected by means of sash so worked that all are opened and closed simultaneously.

Curvilinear houses are well adapted to grace the grounds of the wealthy, espe-

cially where early grapes are not sought; for economy they will not be chosen. For a specimen of a cheap, complete curvilinear house, the reader is referred to a building opposite to Monument Cemetery, Philadelphia. This house, if memory serves us, not having seen it for several years, is over 50 feet long and about 20 wide; we think it was built by contract for six hundred dollars, while the house first alluded to cost, we should judge, as many thousands. A skillful gardener could take as much and as fine fruit from the cheap structure as from the more costly.

Curvilinear houses, to our eye, present a more pleasing appearance than any other form of house. They are easily managed, but should always be provided with the means of securing artificial heat if desirable. The borders of this form of house are usually made inside and outside—vines planted near the inside front wall.

Among the well-kept places with which West Philadelphia abounds, those of Mr. M. W. Keen and Mr. Altemus are conspicuous. Mr. Keen's grounds embrace about an acre, and are judiciously laid out. Among the many beauties, a fine specimen of the *Magnolia grandiflora*, in full flower on the 20th of April, was especially noticeable. Some pear trees, trained on espaliers, attracted our attention, being remarkably full of fruit buds, and presenting a novel feature. This mode of training pear trees, although well adapted to the gardens of the curious and the skillful, is not to be recommended for general purposes, as the sun is found to have an injurious effect on the bark of the trees. The vineeries, lean-to houses, about 50 feet long each, bear testimonials to the skill of the gardener, Mr. John Stowe, to whom we are under many obligations for varied marks of attention. The residence of Mr. Keen, taken altogether, presents many attractions. Here, surrounded with all the advantages of the city, may be enjoyed the pleasures and freedom from restraint peculiar to a country life.

The residence of Mr. Altemus, somewhat further out, contains about the same amount of grounds, the most marked feature of which are the graperies, which have become very well known under the care of Mr. John Sanders. The borders are altogether outside, the vines planted without, and trained on the spur system, and the entire houses, some three hundred feet, heated with hot water piping. A house of nectarines in full bloom presented a magnificent sight, not soon to be forgotten, the trees being in tubs, and trained on espaliers. Out of doors here, as well as at Mr. Keen's, are to be seen some well-attended pear trees, showing how grateful the pear is for a moderate amount of attention. Still further up in the village, we were taken to see some 70 trees, (pears,) planted about 6 years ago, and which have been under Mr. Keen's gardener during the past three years. To those doubting the practicability of growing the pear with profitable returns, we would recommend a visit to these trees. They have had no specific treatment, and have been properly and judiciously pruned into the pyramidal form. The return from these trees, the gardener informed us, (the ground occupied being less than half an

acre,) would be over one hundred and fifty dollars ; the expense of treating them, nothing. A thorough spading of the ground two years previously had been their only cost. And while on the subject of pears, let me ask why it is that the Winter Nelis (two of which were among the collection alluded to, and very thrifty, beautiful trees) is so exceedingly difficult to obtain of our nurserymen ? They all have it, it is true—in their catalogues—but nowhere else ; for instance, to be specific, an order was sent in succession, last autumn, to Wm. Reid first, then to Smith & Hanchett, then to Maxwell & Brothers of Geneva, for this tree ; all replied in the negative. At last we prevailed on Hovey & Co. to send us 12, (20 the order called for,) and without Mr. Hovey's attention, we might have wanted the tree. The variety is set down as a poor, straggling grower, and is thought to be tender when young ; but our nurserymen should either take its name from their catalogues, (especially their trade lists,) or keep up a stock.

[We should like to be near Mr. Matheson when those big clusters ripen ; something very persuasive would happen. In regard to curvilinear houses, there can be no doubt that they are the most beautiful as well as the best that can be built. The additional cost is not necessarily great.—ED.]

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## CULTURE OF THE CAMELLIA JAPONICA.

(Concluded from page 217.)

BY W. M. CARMENCKE.

THE Camellia is in habit a forest-tree, and the soil most suitable for it is one rich in vegetable matter ; still it must neither be too clayey nor sandy. Gardeners differ somewhat regarding the best compost in which to pot Camellias ; "many men, many minds," is a true saying in the present case. I have found the following compost very good : 3 parts rich loam ; 2 vegetable mould ; 2 sand ; 2 charcoal. Sometimes animal manures are used ; when used they should be well rotted ; in fact, all the substances used must be well decayed. A great many take the trouble to sift the soil ; it is, however, far better to crumble it with the hands or the spade. Sometimes, when the sand is not very fine, it must of course be sifted. I could not pass by the charcoal without noticing its great benefit and general usefulness. Charcoal, we know, belongs to those manures called absorbents ; that is, it has the power of absorbing those gases (acids) which are produced by the different manures supplied to the soil, either in a solid or liquid state, and of retaining them until wanted for the plants ; it also, by retaining the acids and absorbing the water, prevents the soil from getting sour. Allow me here to make the following extract from "Experiments and Observations on the Action of Charcoal from Wood on Vegetation," by Mr. Lukas. In speaking of

the action of the soil mixed with charcoal Mr. Lukas says : " An addition of two thirds charcoal, for example, to vegetable mould, appeared to answer excellently for the Gesneria and Gloxinia, and also for the tropical Aroidæ with tuberous roots. . . . A cactus planted in a mixture of equal parts of charcoal and earth throve progressively, and attained double of its former size in the space of a few weeks. The use of charcoal was very advantageous with several Bromeliaceæ and Liliaceæ, with the Citrus, and Begonia also, and even with the Palmæ. The same advantage was found in the case of almost all those plants for which sand is used, in order to keep the earth porous ; when charcoal was mixed with the soil instead of sand, the vegetation was always rendered stronger and more vigorous." This, I think, will be sufficient proof that it is of great advantage to mix charcoal with the different soils for plants. We must also remember that in absorbing carbonic acid and ammonia from the atmosphere, it furnishes the plants with one of their principal ingredients.

*Shifting* the Camellia need not take place often ; yet it is of great importance, and should never be neglected, if it is our wish to be in possession of strong and healthy grown plants. Never allow your plants to get pot-bound ; this is connected with evil results ; the roots will be so crowded, that it prevents drainage. If, after watering, we turn such a plant out of the pot and make an examination of the ball of earth, what will we find ? Simply this, that while the upper part of the ball is *saturated* with water, the roots at the bottom *suffer from drought* ! The consequence of such a culture is not only that the plants lose their flower buds ; but, if kept in this state for a considerable time, the greater part of the roots will be found dead from want of nourishment. If such an accident takes place, the plant must immediately, after the greater part of the soil has been removed, and all decayed roots cut off, and the branches pruned in proportion, be repotted, then placed in a warmer temperature, and syringed twice a day with lukewarm water, to keep the stem in a moist state. It will be found beneficial to envelop it with moss ; this will have a tendency to make it break stronger. When the young shoots have made the third leaf, the plant should be hardened gradually, and removed to its former place.

Young Camellias may be shifted every two years ; older plants, about five feet high, need only to be shifted every three or four years ; a great deal depends, of course, upon the healthfulness of the plants. The pots should always correspond with the size of the plants ; small plants will want them from 1 to 2 inches wider than those they occupied before ; strong and powerful specimens in proportion larger. Camellias prefer pots with more width than depth. A main feature is to secure perfect drainage ; to this end, place about two to three inches of fine *cut moss and powdered charcoal*, into which the young spongioles like to penetrate.

Notwithstanding shifting plants is a very simple operation, it still requires some

judgment; it is often done with a great deal of carelessness. After having removed the plant from the pot which it occupied with the ball entire, cut off all sickly and decayed roots, without breaking the ball of earth, except about one inch of the soil at the surface. Next, after placing a few inches of soil in the pot, place the plant as much as possible in the middle, and fill the space between the sides of the pot and the ball firmly with your compost.

Many will inquire, When is the proper time to shift Camellias? The general rule is, No plant should be shifted just before flowering, or while in bloom. April is about the best time; if the plants have been forced, it will of course be necessary to do it earlier.

*Watering and Syringing.*—Next to the soil, the water is of the greatest importance to secure a perfect development in the different organs of plants. We will as briefly as possible investigate its influence on vegetation. The water is found in the atmosphere as a gas, and in the soil as a fluid, and is in both forms of equal importance to develop plants. We know that no substances can enter through the roots of plants unless in a fluid state; consequently, if water was not present in the soil, the different nutritive substances which it contains could not enter into the composition of plants. This is, however, not the only office which it performs: it also serves to convey the dissolved substances to the different parts of the tree, where new organs are formed. This will convince us why some soils, although fertile, but exposed to drought, can not have that favorable influence on vegetation which is effected by a soil of less fertility, but supplied with sufficient moisture. Yet, to have the desired effect upon the plant, and to secure a vigorous growth, the temperature and moisture of the soil must stand in a certain proportion to each other. To make this appear more evident, we will suppose a plant to be placed where there is high temperature, but no water supplied to it. What will be the consequence? After the leaves, through perspiration, have given off to the atmosphere all the nourishment they could receive through the roots, they will wither and fall off; next, from the insensible perspiration which takes place from the trunk and branches, the sap vessels will dry up; in fact, the plant must die.

If the contrary took place, namely, a cold atmosphere and a superabundance of moisture, the effect would just be of an opposite nature. In the first place, it would cause an excitement in the growth of the tree, which will be very feeble, and therefore not bring forth as many flowers as usual. And should it happen that the roots are surrounded with water, which prevents the access of air to them, they will be unable to perform their functions, and must rot. The watering of plants, therefore, belongs to one of the most important operations in gardening.

After shifting the Camellias, great precaution must be taken in watering them sparingly until they get settled, when more should be given. Always be sure

that the water penetrates the ball of earth; to give them a good supply at once, so that it runs out through the aperture, is better than little and often. The period during which Camellias require plenty of water, is when they commence forming young wood, until the flower buds are perfectly developed; if water is not supplied regularly at this time, many of the flower buds will drop off.

**SYRINGING** must also be attended to regularly from the time the Camellias commence their growth. In the winter, watering and syringing should be done early in the morning. Always water before syringing; if this is not done, it is very difficult to judge which pots are dry. It should also be done early in the morning, that the plants may be dry again before the sun gets too strong; often some drops of water will remain upon the leaves, and when the rays of the sun fall upon them they act like a burning glass in scorching the leaves. When the flower buds are bursting, syringing overhead should be discontinued; else the tender sepals will be spotted. When moss grows upon the surface of the earth, it is caused from want of drainage. The plant must then be taken out carefully without breaking the ball of earth; after renewing the drainage, replace the plant; now remove about one inch from the surface, and fill it up with suitable compost.

The dropping off of the flower buds may be attributed to different causes; from the plant being kept either too dry or too wet; also to a sudden change in the temperature. If the flower buds are imperfectly developed in the fall, when the plants are brought in the house, the watering must be attended to with a great deal of care.

The cultivation of Camellias in rooms is connected with some difficulty, on account of the dryness of the atmosphere. When kept there, they should be placed apart from the sitting-room, where they are not so much exposed to the clouds of dust which the housemaid raises with the broom, and which finds a landing-place upon the leaves of the poor Camellia, and consequently hinders its healthy development. The red spider is also very willing to make its appearance in a room. Above all, when watering the plants, water them with clear water, and do not force upon them coffee, the dish-water, soap-suds, and other beverages, which place the roots of the poor plant in nothing but a sewer. A good plan is to wash the branches and leaves frequently with a sponge.

**Propagation.**—The propagation of Camellias by cuttings is not often resorted to, except for the propagation of those with single flowers, which are used for stocks, upon which the double varieties are inarched; by which course strong specimens can be procured in one year's time. The proper time for this operation is when the Camellias have commenced their growth. It will be needless here to describe the operation of "inarching."

**Cuttings.**—If any one wishes to increase some by cuttings, it can be done in the following way: The varieties with single flowers root easier than those with double ones. Take flower pots about three inches high and eight in diameter; place

some broken crocks in the bottom; upon this a layer of moss; and fill the remaining space with a mixture of two parts vegetable mould, two sand, and two powdered charcoal. For cuttings, take the young wood perfectly ripe; leave each cutting with three leaves, and cut it off at the lower part, just below a joint, with a sharp knife; then insert the cuttings, and cover them with a bell glass. Place them in a temperature from 45° to 50° Fahr., shady and cool, for about three weeks; if placed in the heat just after having been made, they will make callus, but no roots. At the end of this time, they should be removed to the hot-house. The single red flowering ones generally root in from three to four weeks; the double flowering varieties require some time longer.

*Seed.*—It is seldom that Camellias are propagated by seed, unless it is the wish to raise new varieties. The seed should be sown in seed-pans, in sandy peat, and with a good drainage, and placed in from 75° to 80° of heat.

The length of this article forbids me to enter into detail upon the merits of the different kinds. New ones are yearly added to the list, many of which are not so excellent as their predecessors. A good collection should not be without the following: Archduchess Augusta, Downing, Lady Hume's Blush, Alba Perfecta, Wilderii, Abbey Wilder, Imbricata, and Fimbriata.

[The Camellia grower will welcome the above from Mr. Carmiencke; it meets and provides for many difficulties met with in growing this popular plant. Another article, containing a description of the best varieties, would make the subject more perfect.—ED.]

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## MORE ABOUT VENTILATION.

BY VENTILATION.

MR. EDITOR:—I have received the August number of the HORTICULTURIST, and through it, the answers to my questions, for which please receive my many thanks.

Well, Mr. Editor, I have “been and gone and done it;” that is, I have investigated the matter, and think I now understand my most worthy tutor.

There are undoubtedly, constant changes going on in the soil, although not apparent to sight or sound; we can sometimes use our olfactory nerves in detecting this change.

I now suppose that carbonic acid and ammonia are given off from the soil in any well constructed border in a green-house, or from the numerous small borders, *alias* pots of compost.

All good soils probably contain a considerable amount of carbon. If the soil containing this is properly drained of its superabundance of water, undoubtedly the air will enter the soil, and there work such wonders that we poor students never

dared to dream of ever explaining to our entire satisfaction. One of these changes I suppose is, the oxygen of the atmosphere uniting with the carbon already in the soil, forming carbonic acid gas; probably part of this gas is absorbed by the rootlets, and part escapes into the atmosphere, there to be decomposed by the leaves, and stored in the plant as carbon. Am I right there?

But another point is, how does the air obtain any ammonia? If I remember rightly, the "doctors" tell us to never put undecomposed nitrogen into any border, and I can conceive in some manner how it would have a bad effect; if a chemical action is too great, in the presence of roots, it may have the power of killing them, as we know that the hydrogen of the air will speedily enter into nitrogen and decompose it, which action is very fast, sometimes producing a great amount of heat, as in the case of the common hot bed. And again, if nitrogen is to be supplied to the plant, it should be in the form of ammonia, and any compost containing this should have it so absorbed as to allow of no waste, *i. e.*, volatilization; for, in open culture, all ammonia that we allow to escape into the atmosphere is so much lost to *us*.

But probably no compost has yet been prepared, with a sufficient quantity of ammonia in it, but that there were some portions of it that were not fully absorbed some would be escaping constantly from it for a long time. This would apply even with greater applicability to the green-house, as there the soil or compost is generally richer in ammonia.

Probably you mean that carbonic acid and ammonia are, generally speaking, constantly rising from the compost in a hot-house, thus supplying it to the confined air. Allowing a grape-vine in a pot to have three feet square of air, could it thrive if this air was not changed, or the portions that were absorbed by the leaves supplied; that is if the *top* of the vine was placed in an air-tight space of twenty-seven square feet, could it thrive? Does your humble student *now* understand you? A few words more, and then I shall quit this letter. Writing letters I am not used to.

I am glad to see that you combat the prevailing idea that trees and vines have larger roots, in proportion to their tops, in rich soil, than they have in poor soil. Page 387, Aug. No., "there are two quite distinct methods of making 'layers,' the one producing scarcely any thing but long roots, and the other a good system of fibres." Please tell us how, or the difference.

How can I obtain Harris's "New England Insects?" At what price? What works on vegetable physiology can you recommend me to study? where to get them, and price? Has Dr. Lindley ever published any works of this kind?

[The above is one of the articles in the mislaid parcel of letters alluded to in our last issue. It has been a source of unmixed pleasure to have found it, for it happened to contain articles of much value. "Ventilation" has certainly got a very good idea of our meaning. His last article plainly discovered him to be a

person of an intelligent and investigating turn of mind, and hence our replies to his queries were mainly suggestive. The wisdom of the course we took is now fully apparent. "Ventilation" is right. The air in the green-house obtains ammonia not only in the way he supposes, from the earth, but the water used there in watering and syringing is richly charged with it, and from this source, not being fixed, it is constantly escaping. All observant gardeners know that recently fallen rain water is peculiarly beneficial to plants; it is simply because of the abundance of ammonia it contains. A vine or plant placed in the conditions named will thrive until the space becomes too small for it; but it will not thrive as it would in a green-house, unless some means be taken to give *motion* to the particles of air. We have had a number of applications in regard to our mode of making layers of the vine; but we purpose making a chapter of the subject in our "Hints on Grape Culture," and that chapter will soon be reached. Will you and others, therefore, have a little patience? It will need to be illustrated. Some publisher in Philadelphia undertook to get out a new edition of Harris on Insects, but we have not yet seen it. The old one can be purchased of Mr. Saxton. We do not know the price. We would advise you to read Wilson's Jussieu and Lindley. You can procure both through Mr. C. M. Saxton, of New York. We shall be glad to hear from you again.—ED.]

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## PRESERVING THE SWEET POTATO.

BY RURALIST.

MANY and various articles appear in our agricultural and horticultural journals of the day upon the different races of the vegetable kingdom; but strange it seems to us, that thus far we have not been permitted the pleasure of a treatise upon the preservation, during winter, of the sweet potato. (I hope, Mr. Editor, that you don't think that this is not a horticultural subject.)

We are inclined to believe that a few words regarding this esculent will not come amiss to many readers; for, as easy as the cultivation and success attending it during the summer or growing months, so difficult becomes the entire success to keep them over winter, when the price would range highest; while at present they command exorbitant prices for seed, during spring, being frequently sent hundreds of miles, proving a negligence in our nurserymen or our intelligent farmers, to the agricultural interests of their neighborhoods.

Several trials have been made to transport them from this part of the country over the plains to Pike's Peak, in the fall of the year. The only method that has met with success is the following: They are carefully taken up, and the ground adhering is washed off clean; they are then dried until they are perfectly so; then wrapped carefully in fine paper, just as our grocers receive their oranges.

For the last few years the writer has been experimenting in keeping them, so as to have them fit for market or the table any time during the winter, with only partial success, and hopes those who have had some experience will let their light shine, so that all may see. It is said that we are a progressive people; we therefore desire to learn all we can, if not for our pecuniary benefit, at least to make the saying true. The method with which we have been most successful is the following: We dug a cellar under a warm room; the sides of our cellar are lined with boards an inch thick; back of the boards are rammed in ashes and lime, to aid in absorbing the moisture that may spring out of the earth; in the bottom of the cellar a coating of cement is put on, also to insure dryness.

The potatoes are placed in bins sixteen or eighteen inches in depth. We place the potatoes as follows: Commencing in the middle of a bin, laying down first a few, then placing the others, or rather setting them, against those, forming a cone; then pouring dry sand over them until covered, placing potatoes against the sand (as before) until the bin is full. Concerning all potatoes, to persons who have not sand handy, dry coarse dust will answer as well. The object of placing them endwise in a conical heap: we find that in sweating the moisture passes off more readily, though they should be permitted to undergo a sweat before stowing them away. The temperature, if possible, should range between 45° and 60° Fahrenheit. We have preserved them in this manner, and used them during winter until April, (and probably could a month longer, if desirable,) good as they are in the fall, fresh from mother earth.

The main object in having all things dry is, first, it appears that none can possibly be kept when there is any moisture, except such as comes from sweating; secondly, if any should rot, being dry, they will not so easily infect others.

Should any be much wilted, freshness can be restored by placing them in moist soil a day or two before using.

[ "Ruralist" has, no doubt, adopted an excellent plan for preserving the sweet potato during winter. We have kept them in small quantities, for seed, by packing them in sand in a barrel, and placing the barrel in a dry cellar. The per centage in loss has been little or nothing. The plan of "Ruralist" will enable us to keep them in large quantity for family use, as well as for seed. But, Ruralist, why did you not "catch the hare before cooking it?" in other words, why did you not tell our readers how to grow sweet potatoes before telling them how to preserve them. Can you not do so yet?—ED.]



## THE DUCHESSE D'ANGOULEME PEAR.

*(See Frontispiece.)*

BY THE EDITOR.

WE have lately received a number of letters, asking why we do not figure some of the old and better known fruits, within the reach of all, instead of new ones, which only the few can get, till they become common. While we think such illustrations should be confined chiefly to new and desirable kinds, there is no reason why some of the older kinds of merit should not from time to time be given. It is true that many of the old ones have been illustrated in works on Pomology, but these are seldom or never seen by the great mass of readers of our magazines.

To meet the case of these last, and in response to the letters above alluded to, we this month give an illustration of the Duchesse d'Angoulême pear, taken from a specimen exhibited at the Brooklyn Horticultural Society. The specimen is of fair medium size. We have raised specimens weighing 36 ounces. We on one occasion exhibited at the New York Horticultural Society three pears from the same tree, weighing 28, 34, and 36 ounces. The tree was growing on quince stock, and was five years old from the bud. This will give the reader some idea of the great size it sometimes attains. We must add, however, that in the case alluded to above, it was not done without artificial means; and by these means we have grown the Bartlett on quince to weigh 16 ounces.

The Duchesse d'Angoulême is very large, oblong obovate, with a rough, uneven outline. Skin greenish yellow, streaked and spotted with russet. Stalk one to two inches long, very stout, bent, and deeply planted in an irregular cavity. Calyx half open, and set in a knobby basin. Flesh white, buttery, juicy, with a rich and fine flavor. We have often seen it when we considered it nearly or quite first rate. It should only be grown on quince stock, when it is one of the best pears that can be grown for market. The tree is an upright and rapid grower, and very productive. The Duchesse ripens from September to November. It should be taken from the tree a week or more before it begins to color.

## BIRDS AND INSECTS.

At this season of the year any thing relating to birds and insects can not fail to prove interesting, more especially when it is borne in mind that their economical relations to each other are becoming better recognized and appreciated. We therefore append here the following extract sent us by our Nazareth correspondent, elsewhere alluded to. It is in a very condensed form, and contains many valuable facts.

"At the late agricultural meeting at St. Gallen, in Switzerland, Baron von

Tschudi, the celebrated Swiss naturalist, dwelt on the important services of birds in the destruction of insects. Without birds, said he, no agriculture and vegetation are possible. They accomplish in a few months the profitable work of destruction which millions of human hands could not do half so well in as many years; and the sage therefore blamed, in very severe terms, the foolish practice of shooting and destroying birds, which prevails more especially in Italy, recommending, on the contrary, the process of alluring birds into gardens and corn-fields.

"Among the most deserving birds he counts swallows, finches, titmice, redbreasts, &c. The naturalist then cites numerous instances in support of his assertion. In a flower-garden of one of his neighbors, three tall rose-trees had suddenly been covered with about 2,000 tree-lice. At his recommendation a marsh-titmouse was located in the garden, which in a few hours consumed the whole brood, and left the roses perfectly clean. A redbreast in a room was observed to catch about 900 flies in an hour. A couple of night-swallows have been known to destroy a whole swarm of gnats in fifteen minutes. A pair of golden-crested wrens carry insects as food to their nestlings upon an average thirty-six times in an hour. For the protection of orchards and woods, titmice are of invaluable service. They consume, in particular, the eggs of the dangerous pine-spiders. One single female of such spiders frequently lays from 600 to 800 eggs, twice in the summer season, while a titmouse with her young ones consume daily several thousands of them. Wrens, nuthatches, and woodpeckers often dexterously fetch from the crevices of tree-bark numbers of insects for their nestlings. In 1848 an immense swarm of caterpillars, of the well-known genus *Bombyx dispar*, had destroyed all the tree leaves in the orchard of Count Casimus Wadzibi, who observed the stems and branches coated, as it were, with a heavy crust of millions of eggs, surrounded by a hairy skin. He employed scores of hands to scrape them off, but to no avail, and the trees were about to decay. Luckily, towards the winter, numerous flights of titmice and wrens frequented that part, and it was soon perceived that the nests of the caterpillars were visibly diminishing. In the spring time about twenty pairs of titmice made their nests in the garden, and in the course of the summer they had cleared the trees of all the caterpillars.

"M. Tschudi considers sparrows to be very useful birds, as one single pair usually carry to their nest every day about 300 caterpillars, an advantage that amply compensates for the cherries the birds steal in the garden. Owls also consume, morning and evening, vast numbers of wood insects. Some species of birds, such as starlings, jackdaws, rooks, jays, and speckled magpies, are distinguished for destroying maybugs or cockchafers. White, of Selborne, who devoted some time to the observation of the movements of a pair of common barn owls, found, among other things, that they often carried to their nest a mouse every five minutes; while another pair of great owls had carried to their nest in one evening in June no less than eleven mice. Most of the smaller birds feed, either entirely or partially, especially during the hatching season, on insects,

worms, snails, spiders, &c. ; so do also the hedge-sparrows, woodpeckers, thrushes, fly-catchers, (*Muscicapæ,*) wagtails, larks, &c.

"Without these useful birds, obnoxious insects would increase in such masses as to become a permanent plague in Europe, and destroy all fruit and vegetation, like the locusts in the East ; and the farmer, in balancing the gain and loss accruing from these useful birds, ought to consider the latter in the light of domestic servants, whose cost of keeping is amply repaid by their services."

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### AMERICAN EVERGREENS.—NO. 3.

BY C. N. BEMENT.

THE *Fir*, the *Pine*, and the *Larch*, says Baxter, constitute a perfectly natural demus or family, and, next to the *Oak*, are the most valuable of our timber trees ; but independent of their nature in this respect, their beautiful foliage and magnificent appearance have at times rendered them objects of admiration and attention

"Of the four natural tribes into which the firs resolve themselves, the Silver Fir may be taken as the true representative of the first, the Norway Spruce of the second, the Larch the third, the Cedar the fourth."

All the firs are lofty trees, and are remarkable for the regularity and symmetry of their pyramidal heads. The leaves are solitary, needle-shaped, and rigid. They are distinguished from the other pines by the smoothness of their bark, in which are formed cavities containing their peculiar balsam, by the silvery whiteness of the under surface of the seemingly two-rowed leaves, and by their long, exact cones, formed of woody, deciduous scales, with a smooth thin edge.

*The Silver Fir.*—The name of silver fir is derived from the color of its leaves on the underside, which are shorter or broader and set thicker on the spray than those of other firs, and have a beautiful silvery appearance when the under side is viewed, or when the wind turns the branches from the eye ; while the upper surface is of the brightest and handsomest green of all the species of fir.

This beautiful evergreen is a fine, majestic tree, and resembles the spruce in its regular pyramidal form. It differs from it in its bark, which is smooth when young, and continues so until the tree has attained considerable age ; in its leaves, which are nearly flat, and of a beautiful silvery color beneath ; and in having large upright cones. It has a strong resemblance to the silver fir of Europe, a much loftier and nobler tree. The American tree is known by the name of Balsam Fir. It is hardy, easily transplanted, and grows rapidly and with great vigor, and possesses in a high degree the most important qualities of the evergreens as an ornamental tree, a regular pyramidal shape, and rich, deep green. The large cones with which the upper branches are often loaded, give it additional

beauty. Its defects are its stiffness, and its raggedness, which it assumes in old age, which comes on early, as it is considered a short-lived tree. Its chief recommendations are its hardiness and its quickness of growth. It stands unprotected against the wind, when not blowing from the sea, better than any other tree, and grows on a bleak point where any other tree would be killed.

*Double Balsam Fir.*—This tree has so strong a resemblance to the common fir, that it is difficult, except by the cones, to distinguish them. They have the same habit, the same kind of bark, and grow in similar situations. The double fir has the leaves usually much more crowded, whence probably its name. It is not often, however, by the common people distinguished. The mature cone presents a ready and certain distinction. It is about half the length and two-thirds the thickness of that of the common fir, and the traits or transformed leaves inside the scales of the cone, project, and end in a somewhat long point, like the point of a leaf.

From the great richness and luxuriance of the foliage, the double balsam is a very beautiful tree, and its leaves diffuse a peculiarly agreeable resinous odor. It has been successfully transplanted, and is valuable as an ornamental tree; but at the same time is considered one of the most delicate of the fir tribe.

*The Balm of Gilead Fir.*—This is also a delicate ornamental tree, but it rarely attains to any considerable size. This species and the silver fir are often confounded, but may be distinguished thus: The leaves of the silver fir are arranged nearly on opposite sides of the branch, comb-like. The under sides of the leaves have a white line running lengthwise on each side of the mid-rib, which gives them a silvery hue. The leaves of the Balm of Gilead fir are shorter, blunter, and stand nearly upright in double rows on the upper side of the branches; while in the silver fir they are flattened and irregularly single-rowed. Neither of these trees should be omitted in a lawn of any pretensions.

*The Black Spruce.*—The two species of spruce, the black and the white, or, as they are more commonly called, the double and the single, are distinguished from the fir and the hemlock, in every stage of their growth, by the roughness of the bark on their branches, produced by little ridges, running down from the base of each leaf, and by the disposition of the leaves, which are arranged in spirals equally on every side of the young shoots. The double is distinguished from the single spruce by the darker color of the foliage, whence its name of Black Spruce, by the greater thickness in proportion to the length of the cones, and by the looseness of the scales, which are jagged or toothed on the edge.

The trunk of the double spruce is perfectly straight, and regularly tapering from the ground to the top. The bark is smooth, covered with thin narrow scales, which on old trunks become roundish. On the smaller branches and upper part of the trunk, these scales are downward continuations of the leaves, and often come off with them. The branches are in whorls of four or more, but except on small trees, the whorls are not very distinct, in consequence of the premature decay of two or more of the branches, and the fact that between the whorls are oc-

casionally scattered single limbs. When a tree stands by itself in a sheltered situation favorable to its growth, the stages or whorls are regularly disposed, and diminishing gradually in length from the ground to the top, form a conical head of striking, regular, and symmetrical proportions. To the unpracticed eye, this mathematical exactness of shape is beautiful, and the spruce is a favorite tree, and is often placed in the near vicinity of houses. But to one studious of variety and picturesque effect, the regular cone becomes stiff and monotonous, and the unvarying dark green of the foliage has a sombre and rather melancholy aspect. But the dark foliage of this evergreen makes a fine appearance in winter.

*The Black Spruce.*—Few evergreens are more beautiful for ornamental plantation than the Norway Spruce. It has a character of its own, which is very striking and peculiar, and we may add in a high degree valuable. Its graceful appearance when single or scattered, is extremely spirited, wild, and picturesque; its regular pyramidal conical figure, its long horizontal branches reaching to the ground, extending from the trunk in a graceful curve, which gives additional beauty to its expression, renders it particularly attractive; it forms a beautiful object, and becomes a truly majestic tree; and when judiciously introduced into artificial scenery, produces the most charming and unique effect.

The Norway Spruce is admirably adapted to extensive lands and parks, where there is no want of room for the attainment of its full size and fair proportions. They should always be placed in wild, broken, and picturesque scenery, where they will appear perfectly in keeping, and add wonderfully to the peculiar beauty of the situation. On all grounds where there are abruptly varied surfaces, steep banks or rocky precipices, this class of trees lends its efficient aid to strengthen the prevailing beauty, and to complete the finish of the picture.

Whether as a single tree upon the grass, or as a standard in the shrubbery, towering above all others, it has great claims for us, and may justly be called a graceful and magnificent tree.

*The Arbor Vitæ.*—It would be unfair to deny a word of commendation for that excellent dwarf, the American Arbor Vitæ. With care in selecting specimens, and on the after treatment, it often makes a handsome tree. For screens and hedges it serves an excellent purpose, and grows rapidly. Beautiful specimens of this evergreen may be seen growing in great luxuriance on the margin of the Hudson River, between Fishkill and Poughkeepsie; also between the cities of Hudson and Albany.

It forms a pyramidal or conical shaped tree, densely branched, the leaves more delicate than its foreign cousins, and holding their bright color throughout the winter. The last is of great importance, in an ornamental view. Of its hardihood there can be no question, as it grows in the most bleak and exposed situations; it bears transplanting equal to the foreign varieties, and may be cultivated with equal ease.

*The Evergreen Cypress* is a native of California, and is undoubtedly one of

those gigantic coniferous trees attaining the height of 300 feet. In the forest it grows "as straight as an arrow," and is naked of branches to the height of 60 or 70 feet. The branches are covered with thick dark green foliage, and fall in rich festoons to the earth, and produce the most picturesque effect. Besides being one of the most ornamental evergreens, the Evergreen Cypress is one of the easiest reproductions.

There are many other evergreens which might be enumerated, but the foregoing will suffice, as examples to awaken an interest on the subject, and remind us, while we are eagerly collecting the productions of foreign lands, that our own fields and forests bloom with equal splendor.

With ornamental trees and shrubs we display the same weakness that we do in many other things, by importing too much. Living as we do in a country having a greater and more beauful variety of trees and shrubs than any other country in the temperate zone on the globe, yet we cling to that foolish vanity of purchasing the trees of foreign lands to that of our own. With our hundreds of varieties of evergreens, it is strange that we can not be suited at home, and give up planting such vile trash as the Silver Abele and Ailanthus.

We believe in ornamenting our homes with every thing that is useful or beautiful, whether native or foreign; but this giving preference to a thing that has nothing to recommend it but that of coming from a foreign country, is simply ridiculous, and we think there is no nation on earth that displays so much zeal in adorning with the products of other countries as we Americans do. Better close our sea-ports at once, and wrap ourselves up in our dignity, like the Japanese, than to be forever spending our time and money in gathering the productions of foreign countries, and neglecting those of our own.



## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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**PEAR CULTURE.**—We shall soon begin a series of "Hints on Pear Culture," and alternate these with our present series on the Grape. The Pear is a very important object of culture; and we have among our readers a large number of beginners to whom plain, practical directions for growing the Pear must prove acceptable. Other fruits will also claim our attention.

**FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.**—The June meeting of this Society will be held at the Court House in Rochester, on Wednesday, the 25th day of June. These meetings are always very interesting, and we should be greatly indebted to Secretary Bissell for an abstract of the proceedings.

**A NEW BOOK ON THE GRAPE.**—Just as this form was going to press, Mr. Saxton, the publisher, laid on our table Mr. Phin's new book on the grape. We have only time to glance at it at present, but that glance impresses us favorably. It has been in the press, we learn, for more than a year past, and has received some four years of labor; it may, therefore, be assumed to be a work of an elaborate character. We shall try to find time to speak of its merits more in detail in our next.

**BROOKLYN HORTICULTURAL SOCIETY—JUNE EXHIBITION.**—This Society, encouraged by the results of its last exhibition, has determined to hold another some time during the third week in June, the season of roses and strawberries. A liberal prize list has been prepared, a good feeling prevails among the members, and a fine show may therefore be expected. Competition is open to all who choose to enter the lists.

**THE GENERAL McCLELLAN PETUNIA.**—Mr. Cadness, of Flushing, has named one of his seedling Petunias after this talented chief. It is a large, bold, double flower of great substance, and handsomely mottled. It is the best thing of the kind that we have yet seen.

**HOT WATER.**—Our correspondent "Brooklyn," who furnished a description of his hot-beds in the February number for 1861, suggests as "an improvement

in the construction of water hot-beds, to run the pipes through open gutters, or the bottom of the casing be made water tight, to be kept always or occasionally filled with water, as might be desirable, according to the kind of plants grown." He further says, "Since writing the above, I find the same thing, and a still further improvement, in Hood on Warming. After speaking of objections to the tank system, on account of the difficulty of regulating the quantity of moisture, he says: 'It is probable that the most efficient way of applying hot water circulation, for producing bottom heat, would be by passing iron pipes through troughs made water tight, placed beneath the bed required to be heated, and filled with small loose stones. N. B.—These stones, when once heated, will retain their temperature for a great length of time, and by pouring water into the trough, vapor may be raised to any extent that may be required, the quantity being much or little, as circumstances may render desirable, or the heat may be continued without any vapor, whenever a dry heat is required.' Our correspondent "Brooklyn" will no doubt be glad to learn that we have tried this winter something simpler and better with the most gratifying results.

**SHARE'S COULTER HARROW.**—In our last we remarked that we had suggested the manufacture of a smaller size of this harrow. This, we are glad to know, has now been done by Messrs. Haines & Pell, and a most excellent implement thus made more generally useful.

**DROUGHT.**—In New York and its vicinity we are suffering from a long-continued drought. Newly planted trees have felt its effects sadly, and many growing crops begin to suffer. We are looking wishfully for rain.

**THE FLOOD IN CALIFORNIA.**—Mr. H. B. Eastman, writing from Lewiston, Trinity Co., Cal., under date of January 1, 1862, says of the then recent flood:

"The past six weeks I have had my hands full in trying to clear up the wreck caused by a most disastrous flood. You will have seen accounts of it in the California papers, and I will here say that the subscribers have felt its sad effects in all except life and limb. Our house stands upon what, in ordinary times, looks like quite an elevation, yet the river came within four feet of the house. Peach and Apple trees seven years old and twenty feet high, and standing upon ground that the waters has never before reached since the white men have been here, were this time all covered up with the flood. It was a hard sight to look on them, and it is not much better yet. Our whole nursery stock is buried from two to three feet deep with mud, which will, of course, have to be dug out and moved. A large portion of our last summer's budding of Apples and Pears, and a great many small things that will be difficult to find, and of larger things we (my brother and myself) had something near a thousand standard Apple and Pear trees planted out three years ago, but which at the present time are not ac-

cording to directions of 'Downing' or the HORTICULTURIST, for most of them are at least *two feet* deeper than they grew in the nursery, or in the field either, two months ago. We have them all to move, and next time will get them above 'high water mark.' I do not intend to get discouraged, though things do sometimes look a little blue. We have a fine climate to live in, and only one drawback to fruit culture to contend with; that is, late frost in the spring. Since I have been here, now eleven years, the thermometer has never been at a lower mark than 8 deg. above zero, *Fahr.* In summer it is frequently up to 112 deg., yet the heat is not oppressive here as it is in the Eastern States: we always have cool nights. I prize your Grape Articles very highly, and shall follow your directions as well as I can. I believe most of the American Grapes are hardy here." This is a sad picture, but we hope the mud may have so enriched your ground as to compensate you in some measure for all your loss and labor. If you follow our directions in Grape culture, we can promise you nothing but success.

A NEW BEE-HIVE.—Mr. Henry A. Baker, the agent for New Jersey, probably knowing we have a "sweet tooth," but for some time quite empty, has sent us Smith's Patent Wire and Straw Hive, which possesses some peculiarities that distinguish it from other hives in use. We have examined it with some interest,

Fig. 1.

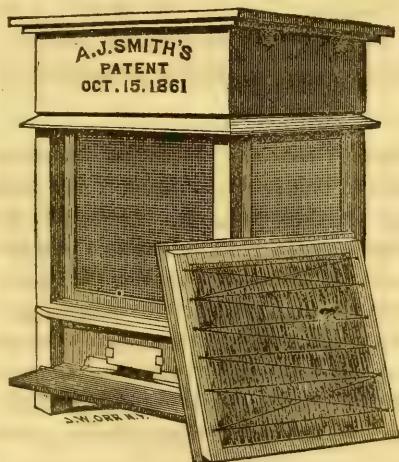
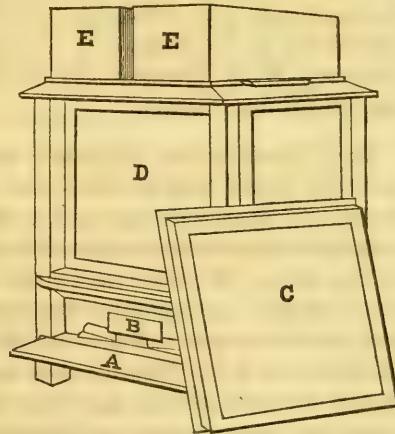


Fig. 2.



since it is to take its place in our "collection." Two ideas prevail in its construction, ventilation and consequent coolness. Mr. Baker having just finished a very neat engraving, we have borrowed it to illustrate the subject. Figure 1 is the perfect hive, with one of the movable sides or sashes out. Figure 2 is a skeleton view of the same. The hive is composed of a frame with double sides, both

made of woven wire. The outer side or sash is movable, (as seen in figure 1,) and lined with straw. When these movable sides are out, the interior is plainly in view. The object sought for here is command of the temperature of the hive; but in addition to this, it affords the bee-keeper an opportunity of seeing what is going on inside. The hive can be used either with or without movable frames. The bottom is shaped like a "hopper," where the dead bees and dirt fall, and are easily removed. There is but little wood work inside to harbor the moth, and the wire sides being all movable, the presence of the moth can be readily detected. Withal it is a cheap hive, plain but neatly and substantially made. The engravings will give the reader a good idea of it without further description. We think we shall put her Italian majesty in this hive, if we can capture her among some of our friends. We shall report on both in due time.

STATE AGRICULTURAL SOCIETY, KANSAS.—The war has not prevented the formation of an Agricultural Society for Kansas. We trust it has a long career of usefulness before it. The following are its officers: President, Lyman Scott; Secretary, F. G. Adams; Treasurer, Isaac Garrison; Executive Committee, E. B. Whitman, F. P. Baker, W. A. Shannon, C. B. Lines, J. C. Marshall, Martin Anderson, Thomas Arnold, J. W. Sponable, Welcome Wells, R. A. Vanwinkle.

MARION COUNTY HORTICULTURAL SOCIETY, (INDIANA.)—The officers of this Society for the year 1862 are as follows: President, Dr. Geo. W. Mears; Vice-Presidents, D. V. Culley, J. S. Dunlop, J. T. Francis; Treasurer, S. V. Morris; Secretary, W. H. Loomis. The spring exhibition will be held at Indianapolis on the 4th and 5th of June.

THAT COFFEE AGAIN.—We see by the *Country Gentleman*, the *Ohio Field Notes* and other papers, that the coffee plant alluded to in a previous number, has been identified. Seeds were sent to Dr. Warder, of Cincinnati, who found it to be nothing else than the Chick Pea, which turns up every ten years or less as a wonderful new thing. We think the Dr. has nipped it in the bud this time. The query of our Nauvoo correspondent was made and answered about three months ago, and given to the printer before Dr. Warder's article was seen by us, or we should have referred to it. That the plant was not the coffee plant was plain enough, though we could not then say what it was, not suspecting it was our old friend the Chick Pea, some of whose singular adventures we chronicled about twelve years ago.

HONOR TO WHOM HONOR IS DUE.—In the proceedings of the Brooklyn Horticultural Society in our last issue, Mr. Quin quotes the saying, "Prune in winter for wood, and in summer for fruit." These few and simple words tersely enunciate a most valuable pomological fact. The words are often quoted, but we believe that to Dr. Warder, of Cincinnati, belongs the merit of having given this

important truth its present axiomatic form. It is a peculiarly happy and expressive one.

FRUIT BOXES.—We have lately received many inquiries in relation to fruit boxes, and, of course, have furnished the best information we could. Those who have such things for sale ought to have the good sense to advertise them. One of our correspondents, applying for information on the subject, says: "I appeal to you to forward the information *gratuitously*, although the careless fellows, by not advertising in the columns of the HORTICULTURIST, do not deserve to sell their wares." That hits the nail flat on the head.

NEW GRAPES.—A correspondent of the *Ohio Farmer*, F. R. E., (it will not be difficult to guess who that is,) describes the following new grapes. The Mottled and the Mary we have alluded to in a former number, the latter, however, not having been ripe. We should like to see them again. It would be nothing singular to receive the Isabella from Germany, for it has been grown and propagated there many years. F. R. E. remarks as follows:

"Among the many valuable grapes now before the public, the following have claims to favor equalled by very few. One, the *Aiken*, has been some years grown as a superior and early Isabella, but its description has never been printed; the other two are entirely new, and thus far have not been offered for sale.

"*Aiken Grape*.—The origin of this grape is somewhat obscure. While its foliage and hardihood make it a native of this country, we have testimony that the first vine of it now known was brought to Cleveland from Germany. About twenty-four or five years since, Rev. S. C. Aiken, of Cleveland, obtained a vine without name from a company of German emigrants; this he planted, and when it came into bearing, the fruit ripened some ten days or more before the Isabella, causing attention to be drawn to it by some few amateurs; but as the vine stood in a sheltered position in a city yard, and was well fed and cultivated, its superiority to the Isabella was considered rather the result of situation than a distinct variety. Years afterward, the writer had his attention drawn to it, and while he was unable to say what it was, he felt sure it was *not* Isabella. With this impression, he watched it in many places, for cuttings of it have been distributed and grown in various soils; the result is, that in no locality has he ever witnessed any mildew upon it, and invariably it has ripened its fruit a week or ten days sooner than Isabella, wherever grown side by side with it. *Vine*—Hardy, strong grower, productive, wood difficult to detect from Isabella. *Bunches*—Large, shouldered; very compact; berries, large, round, or nearly so; bright, glossy black, with little or no bloom. *Flesh*—Tender; pulp about the same as Isabella, juicy, sweet, and rich, with a pleasant aroma.

"*Mottled Grape*.—A seedling grown by Chas. Carpenter, Esq., of Kelley's Island, that promises qualities that, for extensive growing, will render it more de-

sirable than the Delaware. *Wood*—Reddish-brown; joints two and a half to four inches; leaf, five-lobed, downy underneath. *Bunches*—Close, compact. *Berries*—Round; medium size; purplish-red, with spots that, when held to the light, give a mottled appearance; hence its name. *Flesh*—Tender; pulp, small; juice, sweet, rich, abundant, with a sprightly character that keeps good even long after ripe. *Skin*—Rather thick, or, perhaps, as much so as Catawba. Ripens with the Delaware, but will hang a long time without shriveling or dropping. As a table grape, it will please those who like a well-ripened Catawba; and as a wine grape, it gives promise of superior excellence.

“*Mary*.—This is another seedling, grown by Chas. Carpenter, Esq., that promises to become a superior table grape, ripening about the same time as Isabella. The vine is perfectly hardy, and a strong grower; wood of a pale-red; joints, four to six inches; leaf medium size, dark-green, five-lobed, rough underneath. *Bunches*—Large, long; sometimes, not always, shouldered; neither very compact, nor yet loose. *Berries*—Medium size, round, greenish-white, with a fine white bloom; translucent, long pedicels. *Flesh*—Tender; pulp, very slight; juice, abundant, rich, sugary sweet, with a brisk, pleasant flavor, that, eaten in comparison, make it superior to most varieties at its period of maturity. As a choice table grape, of its color, this variety promises more than any one we have before met of its age; the past season having been its second year of bearing, and the vine, so far, having had little or no cultivation. Experience, heretofore, has shown that the grape does not exhibit its best qualities under four or five, or more, years of fruiting, and that too with good culture.”

**FRUIT BOXES AGAIN.**—A good box for transporting small fruits to market is now very much needed, and we have almost daily inquiries for them; but as yet we have not seen one free from objections, though there may be such. We will state the requirements for a good box. In shape it should be square, that there may be no loss of room in packing the boxes in the crate. There should be a space of about half an inch under the box; that is to say, the sides should extend half an inch below the bottom, which will allow the boxes to be packed without shelving of any kind. The material should be very light, to save freight. It should be securely fastened together, that it may be durable. It should be cheap; so cheap, indeed, that the box may go with the fruit when it is sold, if need be, or that its loss will not be felt if it is not returned. These are the principal requirements, and we know of no box that meets them; when we do, it shall have a prominent place in our “Table.” The Oneida box is cheap and durable, but it is faulty in weight, and especially in shape. Halleck’s box is good in shape, but very faulty in weight. Flower-pot boxes are all wrong in shape, and some of them drop their bottoms even with careful handling; others do not. Can not somebody “invent” a good, durable, and cheap fruit box? When “somebody” does, we should like to see it filled with fruit.

**STUMP FENCES.**—In Western New York stump fences are quite common. Having tried many means, ineffectually, to destroy these remnants of the primeval forest, the people at last devoted them to the useful purpose of inclosing their farms. They are very durable, and their appearance would seem to be enough to frighten cattle from all attempts to get through them; but they really could not, if they tried ever so hard. These fences, when well put up, are at least picturesque, if not beautiful; they could be made to take on the last attribute to a very considerable degree by covering them with creepers. For this purpose, we can think of nothing better than the *Ampelopsis hederacea*, a rapid grower, and hardy. These fences, covered with *Ampelopsis*, hanging in graceful festoons from the long roots, would present a very beautiful sight during the summer, and in autumn and early winter would be all aglow with brilliant tints. We suggest that some of our Western friends, with an eye for the beautiful and picturesque, plant their stump fences with the *Ampelopsis*.

**LATE AND DESTRUCTIVE FROSTS.**—We record, with deep regret, the occurrence of a severe frost on Sunday morning, May 25th. We find, through our correspondents, that it prevailed over a wide extent of country, and proved very destructive in some localities, especially to fruit. We hear of it in New Jersey, New York, Pennsylvania, Connecticut, and many Western States. We have never known a season open with a finer prospect for an abundant crop of fruit; in many localities the scene is now sadly changed. In some places the grape crop has been quite destroyed. The following extract of a letter from Mr. Griswold, of Vernon, Oneida Co., N. Y., agrees with statements received from many other sources.

"We have just experienced one of those freaks of weather for which our climate is so noted. I had supposed that Central New York, after so cold and backward a spring, had passed all danger from frost for this spring, but it seems we are often liable to disappointment. We had been having very warm weather, the thermometer reaching over 80°, when it took suddenly cold Saturday night, the 24th. We had a severe frost, killing corn, cucumbers, tomatoes, and many other vegetables; cutting grape vines completely down, (the growth made this spring,) injuring currants, gooseberries, pears, and, I am afraid, all kinds of fruit. It was so severe as to completely kill the leaves on a ginko tree and a sophora, and about half of them on a tulip tree; entirely on a wistaria, and the tips of a dielytra, and many leaves on the horse chestnut.

"It fairly makes us feel a little blue, when we had been anticipating so much, the promise for fruit of all kinds never having been better, the trees being completely white with the blossoms. I sincerely trust we are the only part of the country which has had to suffer."

**PRIZE ESSAYS BY THE AMERICAN INSTITUTE.**—We learn that the American

Institute is about to offer valuable prizes for the best Essays on the cultivation of various kinds of fruit, such as the Pear, Grape, Strawberry, &c. It will also offer a valuable prize for the best seedling Pear, Apple, Grape, &c., not yet disseminated. In regard to the last, we hope the prize list will be so worded as to exclude all inferior seedlings, without regard to competition. The Judges should be very carefully selected, and instructed to rule out promptly every specimen not reaching a specified standard of merit. It is only by a stringent course of this kind that the endorsement of the Institute can be made to assume any value whatever ; it is due alike to the public and the character of the Institute. The prize list for seedlings should not only be circulated freely in circular form, but as freely advertised in the horticultural press. In regard to the Essays, the prize list should be put in the horticultural journals at once, and kept there for several months, in order that it may meet the eyes of all interested in such matters. There is no credit to any body in keeping such matters concealed ; they should have the widest publicity. Heretofore this prize essay business has been badly managed. It has only come to the knowledge of a few, and these few have learned of it so late as to be compelled to treat the subjects in a very hasty and imperfect manner. The requirements of each essay should be distinctly stated, so that each one may know what he is expected to furnish. Properly managed, the Institute may in this way secure a valuable series of papers for its Transactions. We know the managers to be men disposed to do every thing in the right way when this is made apparent to them, and we therefore make these remarks for their guidance. We wish, at the same time, to give the matter publicity, that it may early meet the notice of those most likely to engage in competition of this kind.

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How to PICK STRAWBERRIES.—It has often occurred to us that the usual method of picking and sending Strawberries to the table is by no means the best that could be devised. In taking off the stems and calyx the berries are much bruised, and their appearance by no means improved. In the case of small berries, there may be some excuse for removing the calyx, but all large berries should be placed on the table with the calyx and a portion of the stem. They should be eaten one at a time, and each person allowed to apply sugar and cream or not, to suit his taste. We hope to see the day when Strawberries will be grown with such a happy combination of flavor and sweetness, that no auxiliary in the form of sugar will be needed to make them palatable ; sugar, indeed, smothers and destroys the natural flavor of the fruit. We already have berries sufficiently large to fill any mouth of decent dimensions. In regard to marketing, there can be little doubt that berries with the calyx on will sell more readily than others ; they can certainly be sent to market in better condition.

## Correspondence.

MR. PETER B. MEAD: *Dear Sir*,—Being a subscriber to your (valuable to me) HORTICULTURIST, you will pardon the liberty I take to ask you, through the columns of your paper, a few questions.

I have erected a small grapery with border all inside, and planted my vines, which have commenced growing. 1st. Will it be prudent to sprinkle the border through hose from the hydrant, in which I find the water early in the morning to be about eight degrees colder than the surrounding atmosphere. 2d. What advantage is there in growing young canes to the top of the house to be cut away at fall pruning? Would you not get better eyes near the base by pinching the leader about the 1st of August? Owing to shade in middle of house, can you not get as large a crop off two rows of vines as to have a centre row? Yours

Mercer County, May 5th, 1862.

A NEW BEGINNER.

[Early in the season we prefer to have the water as near as possible to the temperature of the house; but a little later, or when the vines have got well started, a difference of eight degrees amounts to nothing. Hold your finger partly over the pipe, so as to break the water into spray, that it may become as thoroughly aerated as possible. If your house is small and your vines vigorous, you can not prevent them from going to the top without incurring the danger of bursting your buds. It is a good plan, however, to break down the leader about a foot from the end during the last of August or beginning of September, whether the vines, have reached the top of the house or not. This helps to ripen the wood and develop the buds. A row of vines may be grown in the center of the house for three or four years, but should then be removed.—Ed.]

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MESSRS. MEAD & Co:—*Gents.*,—Inclosed I send you a twig of the Peach with *something* attached that has *never before* come under my observation, and by an examination of the tree I find a few more on the small branches, but *none* on the *larger ones*. Will you be kind enough, in the May HORTICULTURIST, if not already full, to give some little light as to what they are, and *what sort of an animal* gets up such work, and much oblige your obedient servant, C. W. H.

Newark, N. J. April 17th, 1862.

[The “something” is a remarkable species of *Coccus*, which we have never before seen on the Peach. We wish to compare it with some in Mr. Casilaer's

collection, and will then try, with his assistance, to throw some additional light on it. In the meantime you should get rid of them as speedily as possible, for they are "regular suckers."—ED.]

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IN Elliott's "Western Fruit Book," 4th Edition, I see the following description of *La Caucasse Currant*, viz.: "New variety; vigorous, upright shoots, bunches very long, often 7 inches, with berries 2 inches in circumference, (a fraction over  $\frac{5}{8}$  inch in diameter,) sprightly, mild acid, promises valuable." Now please inform me if it is really of such dimensions, and where it can be obtained.

Altoona, Pa.

Please oblige, respectfully,

J. B. L.

[*La Caucasse Currant* is comparatively new, and as yet but little disseminated. We have not seen it of the dimensions mentioned, but have no reason to doubt that they may sometimes be attained. You will be disappointed, however, if you look for such dimensions as an average. The variety is advertised, we believe, by Mr. Wilder and Mr. Hovey.—ED.]

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DEAR HORTICULTURIST.—At last we have been released, as it were, from prison, and are coming into the sunlight of literature. We feel quite like as if we had kept a fast from the good fresh mental food in the line of horticulture; therefore, our appetite being extra keen, do please forward us the Journal and all the back numbers since last May, at which time they stopped. I can not in a volume tell all the cruelty and devastation that has been enacted here since the war commenced, but our own family has been spared more than any other I know of, which I attribute, in some measure, to our vocation being Horticulture. I will defer till another season a description of the fruiting of some twelve of Rogers's hybrid grapes, which fruited with me last year in the open ground. They so far promise to be far better than any hardy grapes yet fruited here. A very poor apple crop here last year; not one quarter of a peach crop; some pears; small fruit, as usual, more abundant. Our friend Berckmans, of Georgia, wrote me some time since that he was so pleased with the Taylor grape, in bearing with him, as to be induced to plant one acre of it this spring. It grows well here, but we have not fruited it yet. The past winter has been peculiar here; cool enough to keep the buds back, and warm enough not to kill the fig trees unprotected but very little, scarcely injuring the most tender roses in the least. Thermometer once got to 6 deg. above zero, but soon moderated. The first winter month it was often cloudy, but one slight storm fell all the month, and the mid-winter months only had one and a half days that were clear, and the last winter month was cloudy, and the strongest wind ever felt, to my memory. The

prospect for fruit here is better now than it has been, I think, for some ten years past. The peach buds are just showing enlargement; ground froze a little last night.

Thy hungry friend, OLIVER TAYLOR.

[The above from our old subscriber, Oliver Taylor, of Purcelville, Loudon Co., Va., we give as a part of the history of the times. It is pleasant to observe, in the midst of so much cruelty and suffering, that Mr. Taylor thinks his profession of horticulture gained him some immunity from general pillage. We welcome Mr. Taylor within our fold again with unfeigned pleasure, and trust the day is not far distant when the HORTICULTURIST will move again in all its old channels.—Ed.]

DEAR MR. EDITOR,—So we are to have some plain practical talk in the HORTICULTURIST about flower culture? This is far better than turning yourself into a pollywog. I sincerely thank your correspondent for drawing you out. I had long thought of trying to do it myself, but confess I was afraid that my letter would be thrown into that great basket of waste paper under your table. Since, however, you take it so kindly, I am ready to add my commendations, provided you will not call me horrid names, or try to make fun of me. If you do I will give you what Miss Slidell gave Mr. Fairfax. (N. B. If you publish my letter you can leave this part out.) Women (I know of but one exception, and she is—not married) all love flowers, for they blend their fragrance and beauty about our homes, grace our family gatherings and our bridals, representing love and friendship, and we lay them upon the altar and the grave as emblems of faith and purity. Teach us, then, how to make them more beautiful, and how to produce them in abundance. Let us cultivate them *as flowers*, and if possible avoid the Greek and Latin names. Last season I purchased a new variety of "Ipomea," and handed them, with other seeds, to a young friend to plant. When they came up I remarked that the spot was a bad selection. He replied, "If you had told me it was a *Morning Glory*, I should have known where to plant it." When I buy a choice seed or flower, I wish to know how to cultivate it. The florists' hieroglyphics, h. h. p., is insufficient. Half-hardy-perpetual does not tell the whole story, and my books on flowers suppose me to have been educated in the garden. Can you tell me how long I am to cultivate a wall flower to assure its bloom? I have one in the house two winters, and have nursed it in the flower beds as many summers. I shall look for your articles on parlor plants with much solicitude. Instruct us in the rudiments. I confess I am a new beginner. My age I shall not tell *you*, or any body.

FLORA ANN.

[Yes, Flora Ann, we propose giving some very plain articles on the culture of flowers, with the hope that you and other friends may be benefited by them. You

know it is just like the girls to draw us out; they are always drawing us out, and sometimes we feel very long and slim. Send us the woman that don't love flowers; we won't keep her long; we only want to see how such a singular being looks. You ought not to have a wall flower a single year without flowers; but if you have had one two years without yielding its bloom, we would keep it till it did, and in the mean time prune it severely, root and branch. Now is a good time to do it. So you won't tell us how old you are. Very well; we know that children don't mind telling their age.—ED.]

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PETER B. MEAD, Esq.: *Dear Sir*,—Having observed in the HORTICULTURIST for January, under the article “*Cold Vineries*,” that your correspondent objects to the use of tan for filling in between the boards as having a tendency to dry rot the frame work, I should like to know if you endorse this assertion, and if so, what kind of filling would be proper.

I am about to put up a small green-house (frame)  $12 \times 14$ , just large enough for a lady to attend to herself. I propose to board up each side of the posts and to fill in with dry tan. But your correspondent's statement has caused me to hesitate, and to postpone further operations until I can have your opinion.

I propose, also, to coat the ends of the posts, which are chestnut, with gas tar, plastering it on with a mason's trowel, instead of applying it in a boiling state, which is troublesome. Will this preserve them from decay?

What is the best mode of heating a green-house of the above size?

Any information which you may please to communicate will be thankfully received by

A CONSTANT READER.

[The above was thought to have been answered by post; but we now find that the wrong party was addressed. Hoping it may not be too late, we answer it here. We have found tan not to rot the frame work more than a great many other substances, when put in thoroughly dry; in fact, we have found the frame-work to rot soonest with no filling at all, unless the frame work was protected by paint. Of all the fillings we have used, dry charcoal dust is the best. We now never put up a grapery or green-house without having the wood work, inside and out, and in *all* its parts, well primed *before* the frame is put together. We include in these remarks all wooden foundations as well as the frame proper. We do not, however, recommend any but brick or stone foundations. Last February we put in a wooden foundation for a house, (it was too cold to work in mortar,) and painted the planks on both sides with coal tar before putting them in. This is the best method we know of. It has no filling in. You will do well to cover with coal tar *all* wood work that comes in contact with the earth. The best mode of heating is by hot water pipes or a tank.—ED.]

TO THE EDITORS OF THE HORTICULTURIST:—*Gentlemen*,—Will you have the kindness to inform me, through the columns of your Journal, the best way of making wine; I do not mean on a large scale, say only from four to six gallons. Also the kind of grape which will produce the best wine. Any information you can impart to me respecting its manufacture will be kindly appreciated by

Yours very respectfully, &c., HARVEY T. MANNING.

Baltimore, May 5th, 1862.

[We have had many applications for information like the above, showing clearly that grape culture and wine making are taking a deep hold on the mind of the horticultural community. Wine making will form a part of our series of articles on Grape Culture, and we have felt loath to anticipate that part of the subject, being desirous to have it come in in its natural order. We are almost tempted to depart from our plan, though assured that it is the only proper one; we will reconsider it, however. In the meantime, you can not do better than follow the directions of Judge Reid in our last number; they are among the very best yet published, though somewhat deficient in detail. You, of course, will do every thing on a reduced scale. Procure, therefore, a tiny little cask for your must, and a glass siphon for carrying off the gas; the last you can get at any glass warehouse. Be sure not to add a particle of sugar to the juice, but begin with the determination to make *pure* wine. If you open the door for one thing, many others will be sure to follow. The Delaware, Diana, Catawba, Lincoln, and others of that class will make good wine. The Isabella and its family connections you had better let alone for wine-making; for if experience is worth any thing, you will certainly fail in making good wine of them. All the Isabella wines in the market are adulterations. For wine, we advise you to take the grapes in the order in which we name them. We may give you an elaborate article on the subject sooner than we anticipated.—ED.]

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BROOKLYN HORTICULTURAL SOCIETY—SPRING EXHIBITION.

THE spring exhibition was held at the Academy of Music. Having been unable to attend, we are not able to speak of the character of the exhibition personally, but it is represented as having been eminently satisfactory, and very encouraging to future efforts. Fine plants were exhibited from the collections of Messrs. Barnes, Langley, Hoyt, Stewart, Menard, Buchanan, Chamberlain, Dailledouze & Zeller, Cadness, and others. The attendance was large, and the receipts were greater than was anticipated. The following is a list of the prizes awarded:

For the best collection of plants, David Fowlis, gardener to E. Hoyt, Esq., Astoria, L. I.

Second best collection, Gustavus Messenbergs, gardener to Henry M. Barnes, Esq., Lee Avenue, Williamsburgh.

Best Ferns and Lycopodiums, Louis Menand, Albany, N. Y.  
Best Cacti, Wm. Grant, gardener to Wm. Vandeventer, Esq., Astoria, L. I.  
Second best Cacti, Louis Menand.  
Best Verbenas, Wm. Poynter, Brooklyn.  
Best six stove or green-house plants, Louis Menand.  
Best three stove or green-house plants, Louis Menand.  
Best specimen stove or green-house plant, George Hamlyn, gardener to Wm. C. Langley, Esq., Bay Ridge, L. I.  
Second best specimen, Louis Menand.  
Best six variegated or ornamental leaf plants, Gustavus Messenberg.  
Second best six variegated or ornamental leaf plants, Louis Menand.  
Best specimen, Louis Menand.  
Second best specimen, Gustavus Messenberg.  
Best two Orchids, Isaac Buchanan, Astoria, L. I.  
Second best two Orchids, Louis Menand.  
Best specimen Orchids, Isaac Buchanan.  
Best six Azaleas, Thomas Templeton, gardener to "The Large Estate," Brooklyn.  
Second best six Azaleas, Louis Menand.  
Best three Azaleas, Louis Menand.  
Second best three Azaleas, J. W. Degrauw, Esq., Brooklyn.  
Best specimen Azaleas, George Hamlyn.  
Second best specimen Azaleas, Louis Menand.  
Best four Ericas, Louis Menand.  
Best two Ericas, David Foulis.  
Best specimen Ericas, George Hamlyn.  
Second best specimen Ericas, Louis Menand.  
Best six Pelargoniums, George Hamlyn.  
Best eight varieties of Roses, W. Poynter, florist, Brooklyn.  
Second best eight varieties of Roses, Gustavus Messenberg.  
Best six varieties of Roses, W. Poynter.  
Best three Fuchsias, Gustavus Messenberg.  
Best four Gloxinias, Henry Tanner, gardener to J. S. T. Stranahan, Esq., Brooklyn.  
Best Colored Stockgilly, J. W. Wood, Washington Heights, N. Y.  
Best specimen annual flower, Gustavus Messenberg.  
Best four Monthly Carnations, Dailedouze & Zeller, florists, Brooklyn.  
Best twelve Pansies, Mrs. John Humphries, florist, Brooklyn.  
Best collection of cut flowers, Gustavus Messenberg.  
Best twelve cut Roses, Wm. Poynter.  
Best parlor or table bouquet, James Weir, Jr., Bay Ridge, L. I.  
Best pair hand bouquets, Thos. Templeton.

Second best pair hand bouquets, James Mallin, florist, Brooklyn.  
Best dish of Strawberries, Henry Tanner.  
Best six heads of Lettuce, Thomas Prosser, Jr., Bedford, L. I.  
Best six stalks of Rhubarb, Thomas Prosser, Jr.  
Best twenty-five Radishes, Thos. Prosser, Jr.  
Best and most correct labelling of plants, Louis Menand.

## SPECIAL AWARDS.

To Isaac Buchanan, for a fine collection of Orchids.

Henry Tanner, for a dish of string Beans.

Isaac Buchanan, for a new seedling Petunia.

John Cadness, florist, Flushing, for a new seedling double Petunia, Gen. McClellan, very large and beautiful.

A. G. Burgess, florist, East New York, for two unusually large specimens of Daphne cneorum.

A. C. Chamberlain, florist, Brooklyn, for a fine and large display of his patent moss baskets, containing fruit trees and flowers.

Mrs. John Humphries, large basket of plants in flower.

Mr. Pardessus, Wardian cases.

Dalledouze & Zeller, for a display of monthly Carnations.

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BROOKLYN HORTICULTURAL SOCIETY—CONVERSATIONAL MEETING.—The Society held its regular Conversational Meeting at the Athenæum on Tuesday evening, April 23d, President Degrauw in the chair. The evening was occupied mainly by Dr. Trimble, of Newark, N. J., with a very interesting lecture on "Insects injurious to Fruits," especially the Curculio. Not having been present, we take the following account from the *Brooklyn Eagle*:

"This little insect, (the Curculio,) about the size of a house fly, attacks all the apricots, plums, and nectarines, and three-fourths of the apples. The apricot is as hardy as the peach, lives longer, and bears every year, but is seldom seen because cut off by this insect, not from any preference the curculio has for the apricot, but because it blossoms before any other fruit, and therefore is more exposed to its attacks. None of the remedies published in the papers as 'curculio remedies' are of any use; smoking the trees is no use, because the insects flies away and returns again. Mr. Thomas's plan of placing sheets under the tree, and jarring the tree with a mallet, has some effect, for the insect, when the tree is shaken, folds its wings and lets itself drop to the ground, where it remains, looking like a dead plum bud, till you leave it, when it flies back to the tree. This plan is very troublesome, and has to be often repeated. The curculio stings the fruit and deposits its eggs in it; these eggs hatch into grubs in five days; the grub

feeds on the fruit till it falls, when it works its way out and enters the ground, whence it soon emerges as a beetle, and lives in the bark of the tree till next spring. The most effective protection is to have your trees so that hogs may be let in among them to eat the fruit as it falls, and the insect with it. If you have no hogs, gather your fruit by hand, and if you can not do that, cut your trees down. The knot in plum trees is caused by the curelio. There are some insects that come at stated intervals, and others that are very uncertain. The coming of the seventeen year locust may be calculated with great certainty, but grasshoppers, Hessian flies, and caterpillars come suddenly, and as suddenly vanish. All the caterpillar class and many of the flies have enemies called ichneumon flies or parasites; these flies deposit their eggs in the living bodies of insects; these eggs hatch, and the grubs feed on the insect, gradually exhausting it, but touching no vital part, till at last the insect gives up. Our pine forests are saved by these flies, which destroy the borer. Dr. Trimble does not think that our shade trees will be much infested by the inch worm this summer, as the ichneumon flies are helping us with them.

"Mr. Brophy gave some remarks on ants and their pro-slavery notions.

"The President, Mr. Degrauw, stated that to-morrow their exhibition took place, but it might be the last one they would have. The society has been in existence nine years, but its list of members has fallen off so, that unless the friends of horticulture would help it it would have to give up, and Brooklyn will lose what she will have hard work to get back again. The terms of membership are only three dollars a year, admitting to several general exhibitions and twenty-four conversational meetings. Surely the people of Brooklyn will not let it die out. The next meeting will be on the 2d Tuesday in May. Subject—'Native Fruits, Flowers, and Shrubs.'"



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GENERAL VIEW OF PROPOSED CONSERVATORY, CENTRAL PARK, N. Y.

*Printed in colors, for the Manufacturer, by J. W. Orr.*

THE  
HORTICULTURIST.

VOL. XVII.....JULY, 1862.....NO. CXCIII.

*Hints on Grape Culture.—XVII.*

OUR last article left the vine at the close of the second year, ready to be pruned. Whether the pruning be done in the fall or spring, the operation will be the same. The best time to prune will form the subject of a future article. For most localities we prefer fall pruning, the reasons for which must be given at another time. The reader, however, can safely pursue either fall or spring pruning, as may suit his convenience.

We desire to go back a little here, and possibly avoid some confusion, even at the expense of future repetition. There is one system of training which we adopted a good while ago, and which has yielded so much satisfaction that we shall give it some prominence. It is a system that we have often recommended to our friends, and commended publicly. We stop to note it here, because it requires some peculiar treatment during the second year. Instead of growing two canes to every vine, as directed in our last, grow two canes to every other vine. Each alternate vine is to be grown with a single cane during the second year. Instead, therefore, of pruning all the vines to three eyes, regulate the pruning of the alternate vines according to their strength. If they are stout enough to be left three feet long, prune them to this length. In this case, a couple of the lower shoots may be allowed to bear one bunch each. As soon as the fruit is set, stop these lower shoots two leaves above the fruit, and pinch in the laterals to one leaf. The bud at the end of the shoot will probably break, but this is of no consequence; indeed, it is of no consequence if all the buds on these bearing shoots break, as they will all have to be cut off at the next pruning. It is of some consequence, however, in the case under consideration, to stop the shoots and pinch in the laterals at every new leaf that is made. The object is to obtain some fruit, and yet not materially weaken the growth of the arms; and

this can only be well done by persistent stopping and pinching. All the lower shoots except those to be fruited should be entirely removed.

Having provided for the treatment of the lower shoots, let us turn to those above. The two uppermost buds are to be selected for arms. These are to be treated precisely as directed in our last. The object here is to get two arms three feet above the lower arms. They might be formed by carrying up two shoots instead of one, but we prefer a single trunk.

We have supposed above that the first year's cane was sufficiently strong to be left three feet long. If, however, as will probably be the case, it should be too weak for this, it must be cut down to three eyes, and treated as directed for a single cane. The arms, in this case, will not be formed till the succeeding year; but it is, in fact, a positive gain to wait a year rather than attempt to form arms upon a feeble trunk. Very much of the ultimate success of the vine will depend upon having started with a good foundation.

We must explain here that the first and last vine in each row will have but one arm. This is necessary in order to fill up the trellis. The first vine in the row should have the arm above; that is, the arm should be placed three feet above the first wire. The last vine in the row will have its arm above or below, according as there is an odd or even number of vines; but it is desirable, though not indispensable, to have it above. Our illustrations will explain the arrangement.

We may as well add here a few words in regard to the quantity of fruit a vine may be permitted to bear during the second year. If the vine is at all feeble, no fruit should be allowed to form. Fruit bearing is an exhausting process, and under its operation a feeble vine is rendered still more so; in some cases the principle of vitality becomes permanently impaired, and the vine lingers out a feeble life, unable to "yield its fruit in due season." If, on the contrary, every thing has gone on well, and the vines are stout and vigorous, each of the two shoots may be allowed to bear one bunch of grapes. Some, indeed, of great constitutional vigor, might be allowed to bear two bunches to each shoot. A good judgment must be exercised in each particular case, bearing in mind that in this case, as in most others, it is best to err on the safe side. It will be understood, of course, that the laterals are to be pinched in, but that the canes are not to be stopped, except it may be necessary near the end of the growing season, to hasten the ripening of the wood, as explained in a former article. We drop this caution, lest the reader should confound these arms with the single cane treated above, and in consequence stop them.

Let us now return from this digression, and proceed with the pruning at the end of the second year. We will for the present confine our remarks to the arm system. We have two canes, from which we wish to form two arms. In some cases, where the growth of the vine has been vigorous and stout, these arms might be formed at once of their full length, four or six feet, as the case may be;

and persons impatient of fruit, and ambitious of the largest immediate results, would be very apt to thus form them; but this, in our estimation, is by no means the best method to pursue. It is very important that the shoots growing near the trunk of the vine should be as stout and vigorous as those growing near the ends of the arms. This object can rarely be accomplished if the arms are at once formed their full length; for in this case the buds towards the ends of the arms will inevitably break stronger than those near the trunk. How to avoid this will be explained in our next.

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LANDSCAPE ADORNMENT.—NO. XXV. “THE LINE OF GRACE AND BEAUTY.”

BY GEO. E. WOODWARD,

Civil Engineer and Architect, No. 87 Park Row, New York.

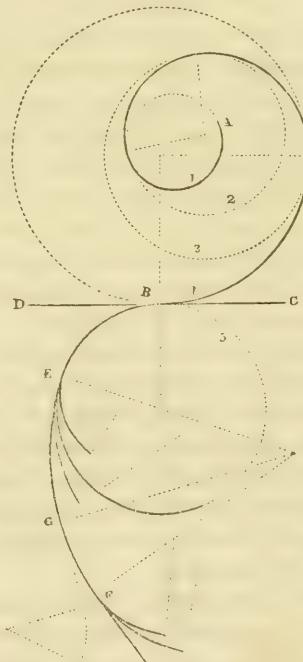
THE most general practice of laying out ornamental roads and walks is by inspection, the lines being decided upon by the eye, one person setting the stakes, while another indicates their positions. The plan, if it may be called a plan, depends for its success on a thoroughly educated eye, a knowledge of the principles of curvature, and the relations curves bear to each other. Without this knowledge, there can not be imparted any instruction of the process of doing such work, and the more one lacks the knowledge of the principles of the beautiful in curved or winding lines, the more complete will be his failure.

A curved line of road, to be beautiful and impressive must have some principle of curvature. “To give curves a character of art,” says Mr. Loudon, “they ought to have a certain uniformity in their degree of curvature;” which means nothing more nor less than that they should be laid out by some fixed rule or principle. “To preserve unity,” says Mr. Loudon, “curves ought to be so united as not readily to discover where one curve begins and the other ends;” that is, the union of curves must be such that they flow gracefully into each other, and this implies a fixed principle in tracing them.

It is by no means necessary to discuss the advantages or comparative beauties of the many varied forms of curvature. Whatever may be the theoretical value of any but the circular curve, we know by experience that in practice they are of but little or no account. The circular curve, compounded of different radii, is practically identical with any curve of the slightest use in Landscape embellishment. It can be made to pass through any point, adapt itself to any form of surface, and admits of the safe passage of heavy and rapid moving bodies, and for graceful flow and elegance is quite as near perfection as can be attained. To any one who has made a practical examination of curved lines of road laid out by the eye, and compared them with those actually laid out as portions of circular arcs,

there can be no question as to the superior elegance of the latter ; the difference is so plain, the grace and beauty of flow so decided, that a doubt is not admissible.

The curves of the conic sections are all naturally illustrated ; their beauty is of the highest order ; beyond them we can not go. The Circle is the prominent curve, cut from a cone by an intersecting plane ; then the Ellipse ; then the Parabola and Hyperbola. The three last can be practically laid out by the use of circular arcs of different radii ; therefore the only curve we need investigate is the circular one ; and we propose to show, by using this in the engineering operations of Landscape embellishments, that a very much higher grade of excellence can be attained ; that the field work can be performed in a fraction of time usually required, and with an absolute certainty of a beautiful result. The diagram illustrates the manner by which curves join each other.



Starting from the point A, we pass around a portion of the circumference of circle No. 1, to the place where it is tangent to or touches circle No. 2 ; from thence pass on to the circumference of circle No. 2 to the point of contact with circle No. 3 ; then on the circumference of No. 3 to its contact with No. 4. These four circles are tangent to or touch each other internally, and the point of contact between any two can be found by producing a line joining their centres. At this

point of contact the passage from one curve to another is harmonious, and is not so at any other point. Circle No. 4 touches circle No. 5 at the point B; this is an external contact, and the curve reverses. A line drawn from the centre of circle 4 to the centre of circle 5 passes through the point of contact. The line C D is a tangent line to both curves 4 and 5; that is, it touches both at B, but does not cut either curve. The line C D is at right angles to the line joining the centres of circles 4 and 5; and to pass from a curve to a straight line, it is necessary that the straight line should be at right angles to the radius of the curve at the point of contact. At the point B, from circle No. 4, we can pass harmoniously on to the straight line in the direction of D, or on to the reverse curve on circle No. 5. At E we pass to curves of different radii, of greater or less radius than circle No. 5, and the union with any of these curves is absolutely graceful. The centres of these curves are always in a line drawn from E through the centre of circle No. 5, and produced. At F the radius is again decreased.

Small garden walks, flower beds, turn-arounds, etc., can be easily laid out by describing portions of circular arcs on the ground from centres in a nearly similar manner to drawing them on paper, using a chain instead of dividers. Curves of large radius, and where objects intervene between them and their centres, are laid out on the circumference. This is best done by the method known as deflection distances; the only accessories required, besides a chain or tape line, can be extemporized on the ground in a few minutes, and the whole problem practically demonstrated in an accurate and rapid manner.

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#### WINTER OF 1862-3 ON THE NEW EVERGREENS.

BY H. WINTHROP SARGENT, WODENETHE, FISHKILL LANDING, N. Y.

In reply to your request for some statement of the effects of the past winter upon the New Evergreens, I can only repeat more or less of my former experience.

Though the winter generally was much less severe in cold than many previous ones, and the spring was equally favorable, yet about the average amount of disease and disaster has taken place, though not always in the same, or even expected subjects. A coniferous friend of mine, and an experienced (though now discouraged) planter of the half hardies, has a theory, that the life of an imported tree depends mainly upon the amount of vitality which it brings over with it across the water, and unless immediately adapting itself to this climate, it gains no new strength from being transplanted here, and only survives as long as its foreign tone and vigor continue to support it, and as this year by year fades out, the tree passes away with it.

I have been coming very unwillingly to a similar conclusion the past year or so, for I think it within the experience of most planters of imported trees, (which

are not unquestionably hardy,) that they sometimes look worse and grow less every succeeding year, until they entirely fade away. More than this: when we find a tree able to withstand a winter such as 1860-1, where the thermometer indicated, in February, 18 to 20 degrees below zero, and apparently doing well and growing vigorously the succeeding summer, we are very apt to make up our minds that this tree is quite safe at this temperature hereafter, and are very much surprised and puzzled to find it does not withstand the succeeding winter when as favorable as the past year. I find several trees here dead this spring which have sustained several winters a cold of 15 degrees below zero; among them the *Euonymus maritima*, the *Chamæcyparis variegata*, *Glyptostrobus hetrophyllus*, etc. Now this winter has not destroyed them; but if my friend's theory is correct, they were obliged to give up so much of their English vitality during the winter of 1860-1, that they had not enough left to carry them through the winter of 1861-2.

We all know, I believe, that foreigners always suffer less from heat and cold the first year of their residence in this country than natives, and do not for their first year readily lose the fine florid look belonging to all healthy Englishmen; the second and third year both the color disappear from their cheeks and tone from their constitutions. Why may not the same be true of plants?

I have been led to make these remarks, to show how difficult it is to make any decisive rules by which we can judge of the entire hardihood of any plant, except after the experience of a long series of years has proved it to be so.

Among the new things which have gone through this winter with entire success are, *Thujopsis borealis*, *Chamæcyparis thurifera*, *Cupressus Lawsoniana*, *Pinus Beadsleyi*, *P. Jeffreyi*, *P. Benthamiana*, *Abies amabilis*, *A. grandis*, *A. lasciocarpa*, *A. Parsoniana*, *A. Pattonii*, *A. Hookerii*.

The latter is said to be one of the handsomest of evergreens, having the grace of form and habit as well as color of the Deodar, but much greater vigor and strength. Among the new Arbor Vitæ I have found *Glauca*, *Gigantea*, *Compacta*, *Lobbii*, *Hoveyi*, *Buistii*, *Craigiana*, and *Menzesii*, perfectly hardy.

As the true Gigantic—rising to an altitude of 140 feet—is one of these, (either *Lobbii* or *Gigantea*), it is very gratifying to know we are to have such a valuable addition to our ornamental trees. Certainly *Craigiana*, *Gigantea*, and *Lobbii* are among the most beautiful of trees, unquestionably the most so of Arbor Vitæ.

*Wellingtonia* seems to do perfectly well here with a little advantage of position; and the Golden Yew is decidedly hardy and most distinctive.

*Cryptomerias* seem to have worked up into an improved condition of health, as well as Cedars of Lebanon, though neither can be, I think, depended upon for large trees.

Deodars, I fear are hopeless, except as bushes.

Among the older evergreens, *Douglasii*, *Clanbrasiliensis*, *Cephalonica*, *Monstrosa*, *Hudsonii*, *Kemferi*, *Nobilis*, *Nordmandiana*, *Pinsapo*, *Orientalis*, *Webbiana*, *Whittmaniana*, etc., among the *Firs*; and *Austriaca*, *Benthamiana*, *Fremontii*,

ana, Cembra excelsa, Laricio, Moritmia, Nivea, Ponderoso, Pumilio, Pyrenaica, Pygmœa, etc., among the *Pines*, continue with me to withstand perfectly both summer's heat and winter's cold.

\* All I have ever said or written in favor of Rhododendrons, Azalias, Kalmias, and Mahonias, I wish to confirm.

I do not even think now that shade is essential for the Catawbiensis variety of Rhododendron, though the foliage is better out of much sun; but certainly neither sun nor cold affects them. Mahonias sometimes suffer a little, and occasionally die back, but sharp pruning to live wood makes them soon recover all they have lost.

The English Hollies, Laurel, Portugal Laurel, and many others of the broad-leaved evergreens, can be grown perfectly well if taken up in winter and removed to a cold pit; a system of cultivation eminently adapted to this country.

[Mr. Sargent's observations on the new evergreens are always most welcome. His devotion to this beautiful class of plants has been a benefit to the country at large. The theory of his coniferous friend is ingenious and interesting, and very suggestive. It will account for many facts that meet us daily. We are glad to see the Golden Yew among the decidedly hardy, for it is very striking and beautiful, and not appreciated half as much as it should be.—ED.]

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## VIEWS OF THE INTERIOR.

BY FOX MEADOW.

THAT there are "interior" views of the great subject of horticulture needing painting on its ever-living canvas, as well as "exterior" views, you, Mr. Editor, know fully as well as your very humble servant.

The "external," it is true, is often very beautiful, noble, and grand, but at the same time it is very deceptive. Men and things constitute the world. We are often deceived by the former, but at the same time often deceive ourselves. It is of this latter we wish now to speak. Perhaps among all the various branches of horticulture, there are none more extensive than the fruit department. Men rush to its culture with sanguine expectations of monstrous results. Trees are planted on the Monday morning, and crops of its luscious fruit looked for by Saturday night. The man who is making and losing money daily in speculative business, makes but a poor patron of horticulture. Pay! Pay! will it pay? is his constant theme; a word, the very sound of which *blasts* all vegetable life when uttered in the garden. The man who can sell a hundred pear trees, or a hundred Delawares to fruit next season, or the same year they are planted, and guarantee fruit enough from them the same year to pay for the trees, will generally find lots of custom-

ers; and hence our nurseries get rid of their rubbish. But these trees *do* bear fruit "the first year after planting," and some of the pear trees had *two* pears on, and the Delaware did show fruit; but, unfortunately, some "insect" destroyed them. How these pears are watched by the lady and little children of the household! How they long for the time to come when they shall be ripe! Bartletts! Oh! shan't we have a feast? They are ripe, and pa's going to pick them. They are picked, and "pa" puts them carefully in a basket, and away he and the pears go to the city, and they sold at a fruit store for what he can get, in order to "make it pay." How long the children cried for those pears, Mr. Editor, I can't say; but "pa" promised them the next lot, as his first sales did not pay his expenses to the city, and would have been an entire loss to him, only that he took them in his hand on the way to his office; a sort of killing "two birds" with one stone.

How many scores of families in the vicinity of all our large cities are thus left almost destitute of fruit for the sake of some paltry pittance in the shape of dollars and cents. Many gentlemen entertain the idea that fruit is injurious, or that only a very small portion should be eaten at one time. We have often seen gentlemen with a half-pound bunch of Hamburg grapes divide it cautiously between half a dozen children, and the mother looking half frightened to death, thinking the little pale cheeks would be poisoned if they eat *one more berry!* Consequently "pa" is again off to market with the grapes, because he has more than he can possibly consume. "Pa," leave the grapes at home, and when you go to the city in the morning, leave the door of your grapery unlocked; *let the children get poisoned for once*, and tell your own dear lady to eat all she is able to, and you will find, as a consequence of the children's every day practice, that every day they will be enabled to eat *more grapes*, and still *more grapes*; that dyspepsia will leave your daughters and consumption your bosom friend. Ripe fruit is *not* injurious to any one; and of all the fruits the earth produces, the fruit of the vine would seem to be especially intended by the Creator for man's use, creative of both health and happiness. Dr. Herpin, of Mentz, in a recently published work, gives a very interesting account of the curative effects of grapes in various disorders of the human body. They act, first, by introducing large quantities of fluids into the system, which, passing through the blood, carries off by perspiration and other excretions, the effete and injurious materials of the body; secondly, as a vegetable nutritive agent, through the alburmeroid of nitrogenous and respiratory substance which the juice of the grape contains; and thirdly, as a medicine, at the same time soothing, laxative, alterative, and defarative; fourthly, by the alkalies, which diminish the plasticity of the blood, and render all more fluid; fifthly, by the various mineral elements, such as sulphates, chlorides, phosphates, etc., which are analogous, and valuable substitutes for many mineral waters. This valuable fruit, employed rationally and methodically, aided by suitable diet and regimen, produces most important changes in the system, in favoring organic transmutations, in contributing healthy materials to the repair and recon-

struction of the various tissues, and in determining the removal of vitiated matters which have become useless and injurious to the system. To the dyspeptic, we say, cultivate and eat largely of the grape. To disease, in all its various forms, we say come, come to the luscious vine, the panacea for all our ills and woes of bodily disarrangement and disease. Mothers should learn to cultivate the vine, and administer its fruit to their families, rather than nauseous drugs and sweet-meats, which often glitter with golden coats of paint to the eye of the child, though pregnant with deadly poison. Cultivate the vine, for it is Nature's great medicine, destined for the human family.

For open air culture, grow none but *sweet pulpless* sorts, and throw all "Bullet" varieties to the pigs, for their stomachs are better adapted for the transmutation of sour, acrid, indigestible substances than the stomachs of little children, or even men.

In our next paper, Mr. Editor, with your permission, we will give you an "Interior view" of Exotic Graperies, for we have seen of late some splendid sights, and we know *you* would like to know all about it.

[We hope all the "Pas" will bear in mind the wholesome advice of Fox Meadow, and let their children have their fill of good ripe fruit. It is the cheapest and best medicine that can be administered to them. By all means leave the keys of the grapery at home, not only for the sake of the wife and children, but we might call during "Pa's" absence, and every body knows our weakness for grapes. We have great faith in the health-giving properties of ripe fruit. Children may generally be left to regulate the quantity for themselves. "Pa" need concern himself only to see that the fruit is *ripe* and fit to be eaten, and given at proper times. Fox Meadow understands us pretty well. Nothing would please us better than the "Interior View" of the grapery; only, if you please, Mr. Meadow, let it be practical and somewhat *literal*, as you usually do such things. We are always ready for the "interior" aspect of all grape questions.—ED.]

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#### REJUVENATING OLD HOUSES.—I.

BY MYRON B. BENTON, LEEDSVILLE, N. Y.

THE HORTICULTURIST, it is presumed, visits not only houses built in the modern style, with all the "modern improvements," but is a welcome guest at many an old farm-house, built, perhaps, a century ago. It is with regard to such dwellings that I wish to make a few suggestions—architecturally.

It is often the case, that the original building, in such houses as I refer to, is a very insignificant member of a large cluster which have been built at different in-

tervals; a small nucleus, which seems to have slowly crystallized the others about it. Of course, there are all the styles of domestic architecture combined which have been in vogue for a long time.

There is generally something of picturesqueness about such a residence, which commands attention from the mere passer-by, when he sees so plainly the little history of a family for several generations written out legibly in the very features of the house they occupy; an interest much greater than most new houses can elicit from the spectator.

But it often happens that Nature adopts the dwelling into the beauty of her landscape much easier than the occupants can for their own convenience. For want of any system or general plan in its arrangement, each part having been built to suit only the special requirements of the occasion, it has become very inconvenient. It is rambling; rooms that should be closely adjoined are far apart, and those that ought to be farthest removed from each other, open together. A long distance must be traversed in setting the table for a single meal; for the cellar-way, perhaps, opens from one of the parlors, and the china is in a chimney-cupboard of the other, and the pantry is in some equally convenient place. The kitchen, which is often the dining-room, suffers most from an ill-arranged plan, being the "vital centre" of a farm-house. This is the only department on which the twenty different architects have worked in harmony, for each of them seems to have thought it desirable that almost every other apartment of the house should open from the kitchen. The consequence is, the side partitions are so filled with doors, that there is scarcely room to set back a table against the wall. There is not a spot in the room where one can sit down without soon finding himself in some one's passage-way. Let us see; connecting doors of this one room open into the parlor, (behind the cooking-stove,) living-room, bed-room, stairway, front hall, east "stoop," west "stoop," wood-house, sink-room, and back-kitchen, besides several closets. There is a small window under one of the "stoops," which, in winter, when the leaves are off the low maple directly in front of it, lets in a few horizontal rays. There is one more window wedged in between the wood-house and the milk-room wings, which contributes another beam.

With all this concentration of the useful members of the house, we look in vain for the expected convenience. Too much has been attempted, and the reverse is the effect. This part of the house is a failure for the various purposes which it must serve. The principal room of the kitchen department is neither a pleasant nor convenient dining-room, living-room, nor kitchen.

[Mr. Benton has hit upon a fruitful theme; one eminently suggestive of criticism. The "rise and history" of some old country houses would prove as interesting as a romance. We hope Mr. Benton will give some illustrations of how the "old home" can be modernized.—ED.]

## PRACTICAL PAPERS, NO. III.—THE BIRDS AGAIN.

BY OLAPOD QUILL.

In the last paper, under the title of *Let the Birds Live!* I gave some reasons why all who own gardens and farms should let these little benefactors live unmolested.

In this paper I would further urge as a duty the care and especial protection from harm the various kinds of birds which seek the vicinity of the farm-house, the garden, and the orchard as places of habitation.

Some few individuals, let ignorance or prejudice against one or more species of birds, condemn the whole race to the shot-gun. Suppose that some few of the birds do prey upon the honey-bee, like the peewit; suppose others, like the robin and cedar-bird, devour our best cherries, is that a reason why they should be banished for ever from the garden, their sweet song silenced, their graceful gyrations amid the woods and groves to be seen no more, and all for the simple reason that they partake unasked of the common bounties of the same Providence that feeds man? Let the birds live. They serve with true fidelity their humble mission, and in doing so they confer an immense benefit upon man as checks upon myriads of noxious insects, which otherwise would prove enemies too formidable for man to contend with alone.

One pair of robins, with a family, will, during the three or four weeks of the caterpillar season, destroy an immense number of these vile insects. Let some of our younger readers tell us how large a number of caterpillars they would kill in four weeks' time, allowing them to kill only sixteen per hour for four hours each day, which is a low estimate during the four weeks' time. They will find, in the answer, an all-sufficient reason why that particular family of robins should live; and having watched their operations with much pleasure during this time, they have become their fast friends and firm protectors.

"This bird patronage," says one, "is small business, I think, and does not pay." Friend, you are mistaken, it does pay, and pays well. You can not obtain a single cherry from some dozen trees, you say—the robins and cedar-birds get them all. You can save a sufficient number for yourself, if you will take the trouble to do it. How shall I do it, do you ask? Not with shot-gun and slaughter. Go to work in a quieter manner; those fine cherries which the birds love as well as yourself, can be saved to you; you can share a part with your busy little winged gardener, and should do so; but lest they should appropriate to their use more than you think they deserve, quietly put a stop to their operations. Birds are, as a general thing, not on friendly terms with cats; now, by placing upon your cherry trees some plaster of Paris cats, such as you purchase for a shilling of the image man, will, if repainted to look like a black and grey cat, most effectually prevent the devastation of birds upon the tree upon which they are

placed. It will be borne in mind, however, that the cats in plaster must be made to look as natural as possible. The cats of the image seller, looking like any other animal in the world than a cat, being almost always painted in bright yellow, with daubs of red, and are no cats at all. I have seen the experiment of the plaster cats tried with perfect success. If one does not wish to try this remedy, let him have a net attached to a large prop, which, though a more expensive remedy, is a sure one. Such nets will protect small trees most effectively, and are used by many farmers in different sections of New England.

It is an erroneous opinion to suppose that birds live upon fruits altogether; many birds live on seeds, and feed their young upon the larvæ of insects, and vast quantities of grubs and insects are every year destroyed in every garden by these public benefactors. Let the birds live; build them neat little habitations; accustom them to your voice; they will soon come and go at your bidding; and it is wrong to accuse every bird that alights upon your corn of destroying it. They are there for another purpose; and if the black-breasted fellow yonder, who labors so perseveringly, does once in a while pull up a hill of corn, call a little philosophy to your aid; remember that God made not the earth and its fullness for man alone, but careth for the sparrow of the field, and he that hath said he will take care of the sparrow, will out of the great abundance of his Providence provide enough for you.

[We believe the experiment of placing stuffed cats in trees has been tried with the best results. It is a very simple remedy, and should be tried, with many others, before resorting to the wholesale destruction of the feathered race.—Ed.]

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### GRAPES, VINEYARDS, ETC.

BY T. B. MINOR.

THE interest manifested at the present time in grape culture in this country is rapidly on the increase, and from evidences that I have received this last fall, I think I can safely say, that we are hereafter to be a great grape-growing people, rivaling the best wine producing districts of the old world.

The best grape-growing regions for producing fruit for market, I consider to be a belt of country, about 150 miles broad, commencing in about the latitude of Philadelphia, and extending from 60 to 100 miles north of the city of New York. If we go further south, the fruit ripens too early to sell well in our large cities, as the month of September is quite as early as it should be sent to market.

I may, perhaps, have placed my limits somewhat too far north, as the southern border of the belt of country above alluded to, for some varieties of grapes; but for the production of the Isabella, Catawba, Delaware, Rebecca, Diana, Hartford

Prolific, Concord, and some other standard varieties, I think that my limits are not far from right.

In latitudes north of the aforesaid limits, up to, and even in the Canadas, good grapes are generally produced, of certain varieties; but the seasons are too uncertain—spring and fall—to insure the greatest degree of success.

The old standard varieties, Isabella and Catawba, do not *fully* ripen more than one season in ten in all New England, Central and Northern New York, and in the same latitudes at the West. In some parts of Central and Western New York, where the soil is light and warm, grapes ripen that utterly fail in the higher and more clayey districts. In Monroe county and vicinity, they generally mature about ten days before the same varieties do in Oncida county, and in most of the state, lying south of Rochester, down to the Pennsylvania line, running east to Hudson River.

In consequence of this difference in the soil, the grape growers of Rochester and vicinity have given publicity to many statements, in regard to the ripening of grapes, which have been taken by the public as applying to all sections of country in the same latitude, while they should be considered as *local*, to a great extent, in their reliability.

The following are some of the principal varieties that generally mature in all sections of this State: *Logan*, *Hartford Prolific*, *Concord*, *Delaware*, *Rebecca*, *Child's Superb*, and *Northern Muscadine*, with several kinds of less reputation. The Diana, one of our best varieties, does not generally ripen in Central New York.

In regard to the relative merits of the quality of fruit, and time of maturing of the above-named varieties, I will make a few remarks. The Logan and Hartford Prolific ripen about a week before the Delaware, Concord, and Rebecca. They are a good early grape; but the fruit of the Hartford Prolific is liable to fall off, if left upon the vines till fully matured, which is also the fault of the Northern Muscadine in a very great degree.

The Concord ripens in Central New York, from September 20th to October 1st, according to situations. If a vine be grown upon the south or east side of a building, the fruit will ripen a week earlier than that grown in vineyards, with no protection on the north or west. This is the case with most other varieties. The fruit of the Concord is considered here to be much superior to the Logan and Hartford Prolific, more prolific than either, but not quite so early.

The Delaware, though excellent in quality, and very prolific when vines have sufficient age, yet it is not as popular in this section of the State as it might be in other places. Good judges of the fruit place the Diana ahead of it when fully ripe; but a serious fault with the latter is, that the clusters ripen very unevenly, there being, frequently, green grapes and ripe ones upon the same bunches, and in the same clusters. The Delaware will continue in good repute, and become one of our best sorts, but it is far from being as valuable as some dealers in it have en-

deavored to make the public believe. The Diana is a larger grape than the Delaware, and when it matures fully, it may well place the Delaware, all things considered, in the back ground.

It has been said, through the press, that the Delaware ripens from one to two weeks before the Concord; but I have failed to see this verified in this, Oneida, county. The Delaware may, perhaps, ripen a few days earlier than the Concord in some places; but it can not be said of it, in truth, that it uniformly ripens even a week earlier.

The beautiful Rebecca is growing in favor every day; it ripens with me about the same time as the Delaware and the Concord; and it has the merit of retaining the fruit upon the vines without a single grape dropping off, till very late in the season. Its only fault is, that it does not bear so profusely as some other varieties; but it greatly improves in that respect as it acquires age.

I may justly include Childs' Superb in the list of early varieties, that are safe to grow in this latitude. Mr. Childs, in whose garden this valuable grape originated, resides in Utica, and I learn that the propagation of it, and its sale, have been intrusted wholly to his gardener, who, I fear, if report be true, has so mixed it up with the White Sweetwater, that many dealers in grape vines have received this latter variety from him, instead of the *genuine* Childs' Superb, which is to be regretted, on account of the bad repute this excellent grape will fall into by those who receive the Sweetwater in its stead. It sold, I believe, originally for about \$5 per vine, and is now worth \$3, or \$36 per dozen, which price I myself have lately paid, while I see that some horticulturists advertise it at *fifty cents!* It is the spurious vine, of course. The consequence of this affair is, that we see "Childs' Superb" offered by horticulturists for sale at low prices, when not one in ten has the genuine grape on his premises; and purchasers received the White Sweetwater, which is a very inferior grape. I have paid lately at the rate of \$36 per dozen for some of the *real* Childs' Superb; and I advise all persons to beware of buying at lower prices *at present*, as the true vines can not be bought at less, and some of our largest horticultural dealers have offered that price for the genuine article, during the last fall, without being able to obtain it.

The Northern Muscadine is a seedling grape, produced by the Shakers of Lebanon, N. Y. It ripens from twelve to fifteen days before the Isabella, and produces a mature crop generally in all sections of this State. It is valuable only as an early variety in the central and northern parts of the State; and the fruit must be eaten as soon as matured, or it will all be found upon the ground.

I have given but a very partial and imperfect description of the four varieties of grapes, which I have here mentioned, as my article was not commenced with the design to say much on that point; but I hope to be able hereafter to discuss the subject of grape growing more in detail in the HORTICULTURIST.

[The limits assigned by Mr. Minor to the grape for market purposes differs

materially from our own, as we understand him; but we are always glad to put upon record the opinions and experience of those interested in grape culture. We do not understand how it can be said that Childs' Superb generally matures in all sections of New York; it is too soon to predicate so much of it, for comparatively few have got it, and still fewer have fruited it; besides, its identity is not yet settled. We must have the results of a more extended experience before we can speak thus positively of any new grape. Mr. Minor probably meant to have said, that in his opinion it will mature in all sections of the states; but to say that it *does* mature is exceptionable. One of our neighbors, formerly of Utica, has a couple of vines from the original, and we shall thus have an opportunity of learning something about its identity. If Mr. Childs's gardener has got it so badly mixed up with the Sweetwater as is supposed, then neither Mr. Minor nor any other purchaser can know that he has got genuine vines, and the sale of it ought to be stopped at once, and till this confusion can be reduced to order; for three dollars are rather too much to pay for a White Sweetwater. The parties directly interested owe it to themselves at least to explain this matter. Probably Mr. Heffron, who is on the spot, can throw some light on the subject. The Delaware, in view of its great value to all sections, must for the present remain at the head of our native grapes. In regard to its ripening, the general experience is, that it usually ripens about a week before the Concord; but, of course, the period will vary a little according to circumstances. No one should claim strict uniformity in such matters; for the very nature of the case precludes it. Those who find the fruit of the Northern Muscadine on the ground will find it where it ought to be.—Ep.]

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### NOTES FROM MY DIARY.

BY SENECA.

*March* 31. UNCOVERED vines to-day. Weather fine.

*April* 9. Weather cool, with frosty nights.

17. Gooseberry in full leaf to-day.

18. Grape buds swelling finely. Weather for the last six days very fine and warm.

*May* 4. Weather for the last ten days very fine and warm, with heavy showers. Buds on Union Village and Hartford Prolific swelled the largest. Rebecca scarcely swelled any yet.

9. Peaches commenced to bloom to-day.

10. Beurré Diel commenced to bloom. Isabella on the south side of a barn in full leaf. Diana breaking leaf. Rebecca very backward,

swelling slowly. Weather warm, with a strong northwest wind. Nights cool.

11. Cherries and Plums in blossom to-day.
12. Union Village in full leaf to-day. Weather warm, thermometer 82° in the shade.
14. Delaware and Hartford P. olifie in leaf.
15. Concord and Catawba in leaf.
16. Rebecca in leaf. Apple trees in bloom. Weather for the last week very warm; wind southwest. Fruit trees of all kinds are loaded down with blossom, the like of which has never, according to the "oldest inhabitant," been seen before, the trees presenting the appearance of huge bouquets of flowers. Grapes promise an abundant harvest, never having seen them come out so even, or look more vigorous before. We have every prospect of being blessed with the largest harvest of fruit and grain ever known.
24. On the evening of the 24th, we had a very destructive frost, destroying grapes, corn, beans, etc.; in some cases entirely, in others only partially. I luckily escaped with very little damage, while a neighbor of mine had ten acres of vineyard, which promised the greatest results, completely destroyed. I attribute my escape to the close proximity to water, my vineyard being bounded on the south by the Seneca river and east by a large brook, which runs within forty feet of my vineyard.

[Keeping a Diary is a practice very much to be commended. It is always useful to the person keeping it, and may often be made so to the public. There are very few persons who can not find time, at the close of the day, to make a few brief notes. We should be glad to have occasional extracts from diaries kept by our readers.—ED.]

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#### R U R A L A R C H I T E C T U R E .

BY COGNOSCO.

To build well, and to do so at a low price, is always desirable; and to build artistically, imposingly, attractively, does not imply elaborate finish or profuse ornament. Sand paper and decoration will never make an ill-proportioned building attractive to an educated taste, while a rough exterior of harmonious lines and forms will pass current with those who have an eye for the artistic.

One of the most important lessons that the art student learns is that of effect; that effects can not be produced by smoothly finished surfaces or details; and

that in architecture, as well as in sculpture or painting, there must be a strong, bold manner of execution, when there is a desire to convey an impression of strength or power.

Where stone is conveniently obtained as a building material, its use in rural architecture deserves far more consideration than is usually bestowed on it; and in its unchiselled, quarried form it becomes desirable in an economical point of view. There is an imposing grandeur in the unhewn stone that asserts its presence in both near and distant views, and, with the proper combinations of proportion, and light and shade, will illustrate the finest architectural effects. Prevailing prejudices are too apt to consider it not only cheap, but inferior in protection and durability to finely wrought surfaces and smooth, close-fitting joints, we are too apt to estimate the value and beauty of a stone house by the amount of labor lavished on its exterior, as if the chisel possessed the power to make the joints more impenetrable, and bestowed an endurance commensurate with the story of expense that it tells. So long as we build well and honestly, with a proper regard to protection from the weather, in a substantial and workmanlike manner, good taste and sound sense will uphold the use of quarried rock, and discover a permanent strength and power in this Cyclopean masonry that elaborately finished surfaces and delicately wrought ornaments fail to express.

Dressed in squared blocks and hammered lines, stone becomes an expensive building material, and preference is then given to something else less costly; but if used in its quarried form, irregular in size and shape, it becomes, wherever conveniently obtained, among the economical materials used for building, and is unsurpassed for its impressiveness and durability. No paint is required to preserve it from the weather, and no color is so good as the color of the stone; time softens its tints, and the clambering vine that lays hold of the massive walls is a decoration beyond the resources of architecture.

"If a building," says Mr. Ruskin, "be under the mark of average magnitude, it is not in our power to increase its apparent size by any proportionate diminution in the scale of its masonry; but it may be often in our power to give it a certain nobility by building it of massy stones, or, at all events, introducing such into its make. Thus it is impossible that there should ever be majesty in a cottage built of brick; but there is a marked element of sublimity in the rude and irregular piling of the rocky walls of the mountain cottages of Wales, Cumberland, and Scotland.

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"And if the nobility of this confessed and natural masonry were more commonly felt, we should not lose the dignity of it by smoothing surfaces and fitting joints. The sums which we waste in chiselling and polishing stones, which would have been better left as they came from the quarry, would often raise a building a story higher."

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"There is also a magnificence in the natural cleavage of the stone to which the art must indeed be great, that pretends to be equivalent; and a stern expression of brotherhood with the mountain heart from which it has been rent, ill-exchanged for a glistening obedience to the rule and measure of men. His eye must be delicate indeed who would desire to see the Pitti Palace polished."

[To all of which we give a hearty endorsement. There are sections of country where people ought to be prohibited by law from building of any material except stone; stone, too, unmarred by the finish of a chisel. Take, for example, some locality like that of the western slope of the Palisades, and how grandly a stone house harmonizes with the surrounding scenery. Even an uneducated taste must here acknowledge the unfitness of wood or brick; if for no other reason, simply because of their tameness in the midst of such a scene. In some places, they have a pretty effect; here, Nature's grandeur belittles them. Stone, on the contrary, not only harmonizes with Nature's handiwork, but possesses grandeur, massiveness, and even picturesqueness to a degree that must impress even the rudest mind. That stone has also its economical claims in this connection we hope soon to prove, unless Cognosco will retain the field, and do it for us.—Ed.]

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BROOKLYN HORTICULTURAL SOCIETY—CONVERSATIONAL  
MEETING.

THE Conversational Meeting of June 10th was held in the new room of the Society, at the Academy of Music. The table was decorated with a fine collection of fruits and flowers, contributed by Messrs. Burgess, Weir, Humphries, Fuller, and others. The subject of the evening was announced by President De grauw. The flowers were passed around among the audience by Secretary Miller, and called forth many remarks of commendation. Not having been present at the conversation, we copy the following from the *Brooklyn News*.

Mr. Fuller then proceeded to enlarge upon the merits of the herbaceous plants he had brought with him, taking each specimen, and giving its botanical name and peculiar characteristics, commented upon the sad neglect of our native American plants shown by our horticulturists and others, who take pains to collect plants and flowers, and cultivate them for their greenhouses. In illustration of the indifference to the beauties and wealth of Nature's vegetable world, shown by the majority of the dollar-worshipping of our countrymen, he alluded to the fact shown in California, where, while we sent out men to dig gold, England also sent the learned of her botanists to explore the vegetable world of the new El Dorado for its wealth, an instance being shown in the discovery of the "Wellingtonia gigantea," by an English botanist, while the Yankee gold-digger passed it by without notice, in his eager search for the mineral wealth that lay hidden at the foot

of the great tree. He then branched into a brief discussion of the advantages to horticulture derived from the bureau of agriculture attached to the Patent Office at Washington. He was quite severe in his comments on the mal-administration of its affairs, especially on the inconsistency of continuing to send to foreign countries for seeds and cuttings of plants, the originals of which are either natives of this country, or have already been cultivated here. As an illustration, he alluded to the expense incurred in importing the disagreeable Ailanthus, simply because it had a high-sounding title, and was imported from China. He was rejoiced to see that it was being rapidly superseded by the blooming and fragrant "Paulownia," the tree that within this past week or so had flowered so beautifully in our streets.

He also briefly remarked upon the fine display of strawberries, and mentioned the fact that the purest seedling strawberries came from America, their introduction to England being the commencement of the culture of that berry there; and that, although the original culture of this fruit was commenced in this country as far back as 1629, by a Virginian, it was not until some twenty-five years ago that its culture was properly attended to in America, Hovey's seedling being the first successful effort, the produce of which was shown in the samples exhibited. Mr. Fuller concluded by suggesting the propriety of making some pertinent inquiries as to whether the government could not be induced to do something in support of the objects aimed at by our horticultural societies.

Mr. Cavanach agreed with Mr. Fuller in his views in relation to the Patent Office.

At this period the President remarked that he thought the subject was taking too wide a range, and begged that the speakers would confine their remarks to the discussion of the subject named. President Degrauw took occasion also to add that the great difficulties in the way of our Horticultural Societies, was the apathy that existed among the general public in regard to Horticulture. He remarked that his position as President of the Society, in which he had undertaken at one time to collect dues from members, had afforded him many illustrations of this fact, as well as the lack of taste and appreciation of the subject of horticulture among those who possessed greenhouses attached to their dwellings, many of whom had them placed there merely for show; one wealthy gentleman residing in this city, that he could mention, even going so far as to make his greenhouse a *source of pecuniary profit arising from the sale of his flowers to gardeners for bouquets.* On one occasion, also, while visiting the residence of a wealthy man of this city to collect the fees for his ticket of membership, a duty the President had volunteered to perform in his eagerness to see the Society sustained, he was met with a rebuff that showed the character of the man he was applying to. Fortunately, this tasteless dollar-worshipper had a sensible lady for his wife, who happened to be in the parlor at the time her husband was excusing himself for not paying the fee of three dollars for the member's ticket. On inquiring of her husband

who it was he was talking to, he replied that it was "the collector of the Horticultural Society." This lady, it appears, possessed some taste, and fully appreciated the advantages derivable from the Society, and therefore, requesting the collector to enter the parlor, immediately handed the amount required to the President, at the same time expressing her hope that the Society would be fully sustained by the wealthy citizens of Brooklyn. After some further converse with the lady in question, the President left; and having promised to send her some flowers, he made up a handsome bouquet from the collection in his greenhouse, and sent the same with his compliments to the new lady member, and it was then only she learned that the "collector" was the worthy and esteemed President of the Society.

Dr. Trimble then called attention to the curling of the leaves of plants, and proceeded to give a highly interesting description of the insects that thus curled the leaves, in doing which he referred to the "Cureulio," live specimens of which he exhibited in the course of the evening.

Mr. Brophy also made a few appropriate remarks in eulogy of the subject of the study of horticulture, and also of the fair sex in connection therewith. Mr. Fuller suggested as a subject for discussion at the next meeting, "Botany and Entomology in relation to Horticulture," but at the suggestion of Mr. Brophy the subject of the evening was set down for the next meeting.

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#### MAKING A COUNTRY PLACE.

BY R. S. S., SUNNYSIDE, N. J.

It is an old saying, that every one likes best to learn from his own experience. As with many other matters which have passed into proverbs, there is a deal of truth in this. There is something perverse in our nature, which resists any teaching which does not run with our own experience. Hence it is that advice is seldom sought except in cases of difficulty and trouble. When one's experience is at fault or in error, then the experience of another is consulted; then it is that we are willing to learn from others; then we can see our own faults. This is emphatically true in the subject matter of this paper. And in this regard it is amusing to witness the gross inconsistencies of men who are otherwise noted perhaps for prudence and success in all their other enterprises. Now the question arises, Whence is this? How does it happen that there should be so much error prevalent on this subject? The answer is plain—simply from *ignorance*. And yet, strange to say, it is a most difficult matter to get any one to confess that on this subject he is ignorant. The answer is always ready, that it is a matter of taste; that I do according to my taste, and "*de gustibus non est disputandum*." To a certain extent we admit the dilemma, and agree with the old lady who was

so demonstrative in her affection for her cow, that "there's no accounting for tastes."

Now, what is it to *make a country place*? To some it seems little more than executing a landscape in colors, according to the different degrees of artistic merit of the painter. Does the idea ever come up that it is the work of years? that the best specimens of the work among us have been the labor of a lifetime? Such would hardly seem to be the case. Country places multiply very rapidly in the neighborhood of large cities. And how are they made? The *modus operandi* is easily told. To begin: the site for the mansion, house, villa, or whatever the fancy of the architect pleases to term it, is selected; then, with the building of the same, the treatment of the ground is commenced. We should, perhaps, more appropriately say the *laying-out* of the grounds, as this term is the one usually employed by such artists; the word we have used belonging to a higher and more truthful school of art. This laying-out consists generally in putting in the approach, with the service roads and pathways, flower and vegetable gardens, and the planting of fruit and ornamental trees. And here is the rock on which shipwreck is usually made, viz., the planting. The novice commences by putting in a tree here and a tree there; here a shrub and there a shrub, all with a commendable desire to fill up the grounds, to get trees, plenty of shade-seclusion from the public gaze, etc., etc. And this is carried on for say ten years, when the proprietor discovers that he is only beginning to learn his work; that much of his creation is bad, and very different from what he would do if he had his work to do over again. Here, then, is a clear loss of time—ten precious years of a lifetime irrevocably gone! And hence it happens that we so often see gentlemen tired of the country places they have made, and instead of becoming attached to the creations of their own taste and liberal expenditure, are glad to sell and be rid of that which has turned out to be a disappointment.

It will be asked, In what, then, consists the true art of making a country place? We answer, in the first place, that the work is an expression of the highest mental culture and most refined taste. As such, it is an exponent of a man's character and attainments. To build his mansion, the owner can summon to his assistance the architect, who will give form and expression to his idea. Then comes the real work—the treatment of his grounds. "*Hoc opus, hic labor est.*" This demands study; not the rapid execution of every passing whim or fancy, but much thought, severe study; knowledge, too, of the principles of correct taste; knowledge of effect in planting: this is the art of the landscape painter, whose skill in the use of colors finds its parallel in the science of the arboretum. Just as the artist, by his choice of tints and colors, produces his marvellous effects of light and shade, aerial perspective, foreground and distance, so must the landscape gardener, by his selection of trees, as to size, form, and color of foliage, create the beauties of his natural picture. We do not claim too much for this work when we say it calls for such requisites. It then resolves itself into the simple

question, whether it is better for him who undertakes to make a country place to rely on his own ignorance, or put himself under the guidance and teaching of those who have devoted their lives to the acquisition of such knowledge. The apprenticeship is honorable, and withal very pleasant; and it is far better to feel that one is progressing right, than to labor under the painful uncertainty as to whether or no time, work, and means are being thrown away.

Now, for fear that we may be thought to be dealing in abstractions and talking hyperbole, let us have a word or two which will address themselves to every understanding. Who is there that can be insensible to the beauties of nature now in this first month of summer? What is it that so charms the eye? Is it not the peculiar effect of light and shade, the charming variety of color, from the sombre Pine to the fresher green of the deciduous Cypress' feathery leaf? Look among the evergreens. See the variety of shading in that usually sombre family. What exquisite beauty in yon clump of Hemlocks, with their sprays all tipped with the brightest possible green! See among the deciduous, the solemn Elm, the sprightly Maple, the brilliant, copper-colored Beech, the silvery Poplar, the diminutive leaf of the Aspen quivering in the light breeze. What exquisite toning of color is here mingled! What a variety of form and symmetry to study! How beautiful is the general effect! Any one whose soul is not dead within him can appreciate such things. In the language of the celebrated Loudon—the chief in that best of all, the English school—"Every one feels that trees are among the grandest and most ornamental objects of natural scenery. What would landscape be without them? Where would be the charm of hills, plains, valleys, rocks, rivers, cascades, lakes, or islands, without the hanging wood, the widely-extended forest, the open grove, the scattered groups, the varied clothing, the shade and intricacy, the contrast, and the variety of form and color conferred by trees and shrubs?"

But does the knowledge of combining and harmonizing such elements come intuitively? Is it not rather the result of deep study—a study which goes into the arcana of the forest, into the laboratory of nature for the pigments of her landscapes? Go to that same author we have just quoted; look into his "*Arborum et Fruticetum Britannicum*." See what the labor and study of a lifetime have done for the amateur and landscape gardener. Here is a guide under whose instructions we may go intelligently to work. The creation of a country place is therefore something more than building a barn or constructing a road. Let him who undertakes the work reflect that he is doing something which is to exist after he is gone, and to remain a monument to his superior intelligence and refinement of taste, or to stand as a contemptible reminder of the littleness of its forgotten author. In this point of view the making of a country place is a serious subject and should prompt the liberal and intelligent projector to avail himself of the highest authority and best means within his power. He will thereby lay up for himself satisfaction and content in future years.

[No more truthful picture could be drawn than the above, and we commend it to all who are about "making country places." That R. S. S. has assigned the true cause of failure in a majority of cases is too apparent to need further comment.—ED.]

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## THE CAMELLIA.—NO. II.

BY CHARLES CARMIENCKE.

MR. EDITOR,—The length of my first article upon the Camellia forbade me to enter upon the merits of the different varieties. Since you, however, think it will make the subject more perfect, I will gladly give your readers a list of the best. I have herein named 63 varieties, and hope that I have not failed in my attempt to place before your readers the colors and habit of those varieties, and that they will be enabled to make a selection to suit their own gratification. The varieties are : 1. White—11 best. 2. Rose-colored—9 best. 3. Red—18 best. 4. White or rose, spotted or striped with red or white—15 best. 5. Dark or light red, spotted or striped with white—10 best.

1. **WHITE.**—*Alba Plena*, (Double white.) Regular habit; free bloomer; fine.  
*Alba Casoretti*. Pure white; imbricated.  
*Alba Perfecta*. Perfect white; imbricated; very good.  
*Anemoneflora Alba*. White; anemone-formed.  
*Alba Festrata*, (Alba nova pl.) Clear white; full; imbricated; good habit.  
*Candidissima*. Pure white; resembles Alba pl.; very fine.  
*Fimbriata*. Petals fringed; imbricated; full; excellent.  
*Innocenza*. Regular habit; double.  
*Martha*. Very large; imbricated; fine.  
*Mrs. Gunnell*. Clear white; large; imbricated.  
*Montironi Vera*. White, with flesh-color tint; imbricated; large.
2. **ROSE-COLORED.**—*A. J. Downing*. Rose; edge of petals shaded with a silvery rose.  
*Duchesse d'Orleans*. Fine rose; regular habit; full.  
*Hempsteadii*. Rose; imbricated; very fine.  
*Landrethii*, (Jacksonii.) Regular habit; very large.  
*Maria Theresia*. Pale rose; imbricated; very fine.  
*Sacco Nova*. Pale rose; imbricated; good.  
*Sherwoodii*. Rose; regular habit; imbricated.  
*Verschaffeltiana*. Imbricated; full.  
*Wilderii*. Fine rose; regular habit; imbricated and full.
3. **RED.**—*Brownii*. Peony-flowered; cherry red; very large.  
*Catharina Longhi*. Carmine; regular habit; very large.  
*Chandlerii Elegans*. Cherry red; very large and full; lower petals often spotted with white; upper ones forming a sphere, and striped with rose; splendid.

*Chandlerii.* Dark red; upper petals occasionally spotted with white.

*Centifolia.* Carmine; sometimes white; double; very large; imbricated; fine.

*Concienna.* Dark red; beautiful habit; infundibular; full and large; very fine.

*Anemoniflora Mutabilis.* Anemone-flowered, changing; deep red, with a purple tint; full and very fine.

*Francofurtensis.* Deep carmine; nearly imbricated; flower large.

*Frostii.* Dark red; double; imbricated.

*Jeffersonii.* Beautiful red; imbricated.

*Myrtifolia,* (Odorata Involuta.) Leafs smaller than the other varieties; flowers dark red; upper petals rose; full and fragrant.

*William IV.* Deep red; imbricated; very fine.

*Buckleyana.* Light red; upper petals delicate rose, occasionally spotted with white; at other times rose; very beautiful.

*Florida, rich-flowering.* Light red; good habit; full; excellent.

*Imbricata.* Imbricated; light red; upper petals often striped or spotted with white; large and perfect habit; a free bloomer.

*Mutabilis Traversii.* Delicate rose; then darker, passing into violet; lower petals 60 to 70, edged with white; excellent.

*Rosea Sinensis,* (China Rose.) Light red or rose; perfect habit; large and full; fine.

*Triumphans.* Light red, passing into rose; perfect habit; very full; good.

**4. WHITE or rose, spotted or striped with red or white.**

*Alexina.* Rose, striped with carmine; very good.

*Americana.* Rose, striped with carmine; imbricated; fine.

*Baltimoreana.* White, striped with red; very large; good.

*Colvillii Striata.* Light red, (deep rose,) striped with purple or crimson; large; fine.

*Donckelarrii.* About twenty petals, one inch broad and two long; light red color, some of the petals changing from white to a mixture of red; excellent and very large.

*Delicatissima.* Rose-shaped; delicate white, with numberless rose-colored stripes; full; very fine.

*Eclipse.* White, spotted with rose; full and fine.

*Imbricata Alba.* Delicate white, striped with rose; often rose, striped with white; imbricated; very fine.

*Mrs. Abby Wilder.* Blush, striped with white; perfect habit; imbricated; excellent.

*Prince Albert.* Light red, spotted with carmine; partly peony shaped, partly imbricated; good.

*Sovereign,* (Low.) White; sometimes white and carmine; imbricated; very large; fine.

*Tricolor.* Semi-double; regular habit; white or carmine, mixed with red; very good.

*Nobilissima Nova, (Reine des Camellias.)* Light red, striped and spotted with carmine; imbricated; very large.

*Muculata Perfecta.* Rose, spotted with white, shaped like *Rosa Centifolia*.

*Queen of England.* Delicate rose, bound with white; imbricated.

5. DARK or light red, spotted or striped with white.

*Binneyi.* Carmine, striped with white; centre whitish; imbricated.

*Duc de Bretagne.* Fine red; striped and spotted with white.

*Emperor.* Deep carmine, passing into white towards the edge; irregular habit.

*Mrs. Fetter's.* Deep red, spotted and striped with white; imbricated.

*Archduchesse Augusta.* Dark purple, bluish, veined, each petal having a white stripe, spotted with red; large and perfect habit; imbricated; about the finest *Camellia*; excellent.

*Archduchesse Marie, (Van Houtte.)* Deep red, each petal with a white middle stripe; imbricated; very fine.

*Pius IX.* Cherry red; centre rose striped with white; very good.

*Reine des Belges.* Deep red; petals lighter towards the edge, bound with white; large; imbricated.

*Queen of Denmark.* Deep red, bound with white; then rose with white edging; perfect habit.

*Washingtonii.* Beautiful red, striped with white; very fine.

[We are obliged to Mr. Carmiencke for having perfected his article on the *Camellia* with a descriptive list of the leading varieties. There are a few which we should have added to it; but it is an excellent one as it is.—ED.]

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#### PATENT-OFFICE SEEDS.

A GOOD deal has been said about the distribution of seeds by the Patent Office. The mode in which it is done invites criticism. It is hit off in the following humorous manner by a correspondent of the *Gardener's Monthly*, who signs himself "Querist."

"I was in hopes that some one of your numerous correspondents would have taken up the cudgel against H. A. D., who, in my estimation, deserves all the odium the blackest ink could lay on his shoulders. So far from the distribution of Patent Office seeds being an evil of which the community should complain, I regard it as showing the beneficent generosity of our government, and is an illustrious example of what foreign governments should do, if they really had the good of their subjects at heart. I received this year for my garden, without costing me one cent, all the vegetable seeds necessary for my family use, through the favor of our member of Congress, who was under some obligation to me for

my vote; (next year my neighbor, who votes the other ticket, expects to get his garden supplied in the same way. I don't think so.) Among these seeds I had extra early peas, turnip beets, radishes, pumpkins, etc., all from a stock bought, according to a Washington paper, by the government from a Philadelphia seedsman, (who, the same papers had previously stated, worked hard to get Mr. Newton into the Agricultural Division of the Patent Office,) for \$11,500.

"How does this operation work to the injury of the seed trade, or the nation, as H. A. D. would have us to believe? By the reception of these seeds I am encouraged to persevere in horticultural pursuits, and the nation at large is indirectly benefited by the increased energy.

"Now in my estimation, the great fault with the system is that it is not comprehensive enough. The government stops at the very threshold of usefulness, when it makes a few peas and pumpkins, at a miserable expenditure of \$30,000 per annum for seeds, \$500,000 for postage, and another \$500,000 for incidentals connected with the department, the only object of free distribution. It has been shown in the *Gardener's Monthly* that cheap glass structures are likely to be of immense value to the nation, in the increased and certain production of fruit; and the government should feel it a sacred duty to foster the infant improvement, by a liberal distribution, all over our broad country, of glass, putty, and paint. The importation of improved bulls, and the free distribution of other popular breeds of cattle, should also be attended to, not forgetting pigs, which would have an immense influence on the popular votes in many districts, and be one of the best means of securing the right men for the right places. One true source of national greatness and prosperity.

"I might pursue this subject to infinity, but have, I trust, said enough to utterly demolish the flimsy arguments of H. A. D., who seems foolishly to suppose that seedsmen have the same right to the consideration of their business from the government than other tradesmen have."

The Editor adds in the same strain:

"Our correspondent is evidently a man of genius, and exhibits a mind that deserves to rank with the most progressive of the age. The suggestion will, no doubt, be acted on by Congress immediately, and—'who speaks first?'—enterprising horticulturist should send their orders for 'paints, pigs, putty, and glass,' to their congressional representatives at once, or the appropriation may be exhausted."

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#### CENTRAL PARK CONSERVATORY.

(See *Frontispiece*.)

We give in this number an engraving of the new flower house and conservatory to be erected the last of next year in the Central Park. In one sense it may be regarded as an accomplished fact. Knowing the wide-spread interest felt in

every thing pertaining to the Central Park, we have been mainly anxious to gather the facts. What follows has been furnished as a condensed statement of the matured plans and views of the Commissioners and the Messrs. Parsons.

The Commissioners have for some time felt that, without a flower house or conservatory to furnish attractions at all seasons, an important element would be wanting in the completeness of the Park. They felt that the carrying out of the numerous details of such an establishment would be attended with difficulty, as they would involve the erection of working houses for the production of large supplies, the employment of a sufficient force of gardeners and operatives, and also the finding a superintendent of the requisite taste and ability, who would devote himself heartily to the work. They therefore decided to license some competent person to carry out the enterprise, in the same way that they license the boats, the house of refreshment, and other essentials to the completeness of the Park.

To induce any competent person to furnish the capital and undertake the whole expense and care of an enterprise of such magnitude, some pecuniary advantages were requisite, and these they decided to give in the shape of an exclusive privilege to sell *flowers* and *plants in pots* on the Park, requiring at the same time a reasonable rent to be paid to the Park for the privilege, which rent is to be applied to the maintenance of the Park.

The next point was to induce the right persons to undertake it; and finding in the Messrs. Parsons, of Flushing, a willingness to carry out their views, they gave the license to them. They did so because these gentlemen are well-known, and have had nearly 25 years' experience in their business, of which ornamental plants have latterly formed a specialty. Their taste having been educated at home and abroad, they are familiar with the best forms of horticultural beauty, and well know how to apply them to the adornment of the Park.

We have conversed with the Messrs. Parsons, and have obtained from them an outline of their plan. Their objects and those of the Commissioners are identical on one point—the education of the taste of the people; and in doing this they intend to make their enterprise commercially successful.

In thus providing a place where every one can see the finest plants, they will benefit the whole trade, and will create such a demand for plants that all florists, both small and large, will probably, five years hence, find their sales much increased. It will be impossible for the Messrs. Parsons to grow in their own grounds all the plants which may be needed, and we believe it is their intention to make the house a true flower market, and to sell many plants on commission, thus giving to every florist the means of selling many really good plants which he could not otherwise sell. It will be a sort of floral exchange, where the visitor and flower will be introduced to each other, and the latter made desirous of permanent possession.

The Conservatory, as will be seen by the plan, will be built at the foot of ascend-

ing ground, the base of which is about fifteen feet below the level of Fifth Avenue. The large room, which will be upon a level with Fifth Avenue, will be forty feet wide and one hundred and sixty feet long. Persons entering from Fifth Avenue by one side of the portico, will walk around the house and pass out by the other side; thence passing down the central stairway, access is had to the lower rooms, which are on a level with the Park. They will consist, besides the offices, of a Camellia House 40 by 60 feet; a house for Ferns, Orchids, etc., 40 by 60 feet, and two other large rooms, in which will be kept Roses in full bloom, cut flowers, and various exotic plants.

The interior of the upper Conservatory will be laid out either in the Italian style, with broad walks, or in the natural style, with winding paths. Flowering exotic vines will be festooned from the rafters and columns; Bananas, Rhopalas, Palms, and the various beautiful foliaged plants will be planted in the open border, in carpets of the beautiful *Lycopodium densa*, while on ornamental and well-concealed shelving, or plunged in the open border, will be arranged large masses of flowering plants, to be constantly supplied from smaller houses at Flushing.

This upper room, covering some six thousand square feet, will be made more strictly a winter garden, and plants will be placed in the soil rather than in pots. Singing birds will also be placed here, the sound of which, combined with the rich tropical scene, will throw around the eye and ear of the visitor a charm which can be easily imagined.

The Camellia House will be kept supplied with Camellias in full bloom, the beauty of which will secure a ready sale.

The Fernery, fitted up with rock-work, will contain aquatic plants, Orchids, and the various exotic Ferns, which are very beautiful. Slowly trickling water over the rocks will afford the necessary moisture, and add to the beauty of the scene. Every curious and beautiful plant that makes its appearance in Europe, will be imported, and there will be an effort to have on exhibition continually, some interesting novelty to gratify those who feel an interest in flowers, and to educate the taste of those who do not.

An important feature will be the exhibition, in their season, of single classes of plants. For instance, once or more during the winter, the rooms below can be filled with Roses in full bloom. Again, in June and September, Roses can be exhibited. When Rhododendrons come in bloom, a house can be filled with their brilliant clusters.

At other times, a house full of blooming Fuchsias can be shown; then a mass of Geraniums; and then other families, the varieties of which are numerous enough to make an exhibition singly.

All these attractions will make the Central Park Conservatory a favorite place of resort beyond any other object of attraction in the city. Pedestrians will make it the terminus of their walk; those in carriages, the object of their ride; while thousands will visit it in the course of their rambles through the Park. Unlike

galleries of art or museums, there will be constant change; each day or each week will exhibit something new, and this once understood, the house will be constantly thronged. In the present unfinished state of the Park, some 8,000 to 10,000 people, by actual count of the Park-keeper, visit it on each pleasant day, and on music days nearly 20,000. As the Park increases in attractiveness, and the Conservatory becomes known, it is not unreasonable to suppose that 10,000 will visit the house daily, if its capacity will allow so large a number, scattered, as they will be, throughout the day. These can, if they choose, each take away some lithographed flower or printed horticultural matter; at one time a description of the culture of some plant at which they have been looking with pleasure, or at another an elevation and working plans of a window conservatory, or of a green-house just large enough for the rear of a city lot, with the cost of erection, of heating, and of filling with plants. Contractors can be furnished to carry out these plans, florists to care for the plants, or, what is better still, directions can be given by which the ladies of a family, with a servant to make the fire, can keep such a green-house in perfect order. It will readily be seen what an education of the public taste will arise from this plan.

We feel especially interested in this enterprise, because we find it very wearisome travelling to different points to see a new Camellia here or a new Rose there. In this Conservatory, all novelties, whether hardy or exotic, will be gathered together, and we shall know them all with little trouble. We hope to induce the Messrs. Parsons to have weekly exhibitions of fruit, to which every one can contribute, and thus enable us to educate our palates as well as our eyes. We only regret that the building is not to be finished before the end of next year, but can understand that that time is requisite to prepare properly for such an outlet to plants.

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## SPRINGBROOK.

BY R. G. P.

THIS beautiful country seat, near Philadelphia, became justly celebrated when that floral wonder, the "Victoria Regia," first bloomed in this country at Springbrook.

In company with others, we accepted the invitation of the well-known proprietor, *Mr. Caleb Cope*, to witness the plant in full bloom. We all admired Springbrook then, and to many strangers it was a source of regret to observe some years since that Mr. Cope had disposed of the spacious mansion, the many fair acres and hot-houses and valuable plants, for the round sum of \$90,000.

One of the merchant princes of Philadelphia, and most active philanthropists, *Mr. George H. Stuart*, became the fortunate purchaser.

Since then we had heard nothing from *Springbrook*, and we feared that it might suffer for the want of the skill and enterprise of Mr. Cope.

We have but just returned from our second visit, and rejoice to say that the mansion, the beautiful lawns and trees, not only, but all the green and hot-houses, so far from retrograding, are all in a decidedly *improved condition*. Even the Victoria Regia house, and the fern and orchid houses appeared, in the best possible order. The Victoria Regia is very flourishing; the whole tank is bordered with fine plants, and the walls are festooned with the most beautiful ferns and other rare plants. Luxuriance, abundance, and health seemed to predominate, and I know it will gratify the readers of the *HORTICULTURIST* to know that Mr. Stuart has more than sustained its former glory. It is so very common to allow our magnificent country seats to decline whenever a change of owners takes place, that I consider this notable exception worthy of special mention.

[It is indeed a rare thing to find such a place as *Springbrook* change owners without suffering in character. We are glad to learn that Mr. Stuart has not allowed its glory to be marred.—ED.]

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#### BROOKLYN HORTICULTURAL SOCIETY.

THE regular semi-annual exhibition of the Brooklyn Society was held at the Academy of Music on Wednesday and Thursday, June 18 and 19. The parquette of the Academy was floored over, and afforded ample space for the exhibition and the public. For the first time, too, those who wished it could be seated at their leisure, with a commanding view of nearly every thing in the room. The auditorium of the Academy is by far the best place the Society has yet had for a public exhibition. We hope they may be fortunate enough to secure it hereafter. The leading features of the Exhibition were Strawberries and Roses. The samples of Strawberries were numerous, and some of them large and beautiful. The largest berries of *Triomphe de Gand* were exhibited by Mr. Fuller; and they were very fine. Large and handsome Seedling Strawberries were shown by Mr. Fuller, Burgess, and others. The chairman of the Judges remarked that a very fine and beautiful berry exhibited as a seedling was thought to be *Triomphe de Gand* grown in the shade, which gave it a more brilliant color, and it was therefore passed by. We will remark, in passing, that the berry referred to is one of our own seedlings, raised ten years ago. It is a highly polished, brilliant scarlet, conical in shape, except when very large, has pure white flesh, and is pistillate; in all which respects it differs from *Triomphe de Gand*. We, and those who have eaten both, esteem it a better fruit; it was certainly much the prettiest looking berry in the room. We would suggest to Horticultural Societies, that they award no prizes to seedling Strawberries and similar fruits till after they

have been exhibited two years, and examined on the ground. There are some desirable points in a Strawberry that can not be ascertained in any other way. Under the operation of such a rule, we think both Mr. Fuller's and Mr. Burgess's Seedlings would have taken the prize over the one that received it. It is all wrong to tie up the judges in the examination of Seedling fruit; they should have the widest freedom.

In the way of pot-plants, the usual good display was made; and the remark will hold good of cut flowers, especially of Roses. The only novelties, not before exhibited before the Society, was the *Lilium gigantium*, a large and noble plant from Mr. Cadness; and *Wistaria magnifica*, very fine, from Mr. Meehan, of Philadelphia. The show of Grapes was not as large as it should have been at this season of the year. The following is a list of the prizes awarded:

#### PLANTS IN POTS.

Best Miscellaneous Collection of Green or Hot-house Plants, Mrs. John Humphries.

Best single specimen Plant in Bloom, G. A. Messenberg.

Best 4 do Gloxinias, Philip Zeh, gardener to A. A. Low, Esq.

Best 6 Fuchsias in variety, G. A. Messenberg.

Best 3 Fuchsias in variety, G. A. Messenberg.

Best 2 Orchids, Isaac Buchanan.

Best 6 Pelargoniums, David Fowlis, gardener to E. Hoyt, Esq.

Best specimens Double Petunia, John Cadness, Flushing.

#### CUT FLOWERS.

Best Miscellaneous Collection, G. A. Messenberg.

Second best, W. H. Cavanach.

Best Collection of Roses, Dailedouze & Zeller.

Second best, P. Brunner, Orange, N. J.

Best 12 Hybrid Perpetuals, A. G. Burgess, East New York.

Second best, P. Brunner.

Best 12 Moss and other Annual Roses, P. Brunner.

Second best, A. G. Burgess.

Best 12 Tea, Bourbon, and Noisette Roses, Dailedouze & Zeller.

Best 6 Roses in Variety, P. Brunner.

Best 6 Herbaceous Peonies in Variety, James Weir.

#### BASKETS AND BOUQUETS.

Best Miscellaneous Basket of Flowers, Philip Zeh.

Best Formal Table or Parlor Bouquet, James Weir.

Best Miscellaneous Bouquet, James Weir.

## FRUITS.

Best 2 bunches of Black Hot-house Grapes, E. & G. Marshall, Poughkeepsie.  
Second best, David Fowlis, gardener to E. Hoyt, Esq.  
Best 2 bunches of White Hot-house Grapes, James Bogie, gardener to J. C. Henderson, Esq.  
Best 3 dishes of Strawberries in variety, Francis Brill, Newark.  
Second best, G. W. Baldwin, East Broadway.  
Best 2 dishes, Francis Brill, Newark.  
Second best, W. A. Burgess, Glen Cove.  
Best single dish, G. M. Sibbell.  
Best dish of Cherries, John Young.  
Second best, G. Marc, Astoria.

## SPECIAL PREMIUMS, (given by the parties whose names first appear.)

A. S. Fuller, \$5, best quart Strawberries, awarded to A. S. Fuller.  
A. S. Fuller, \$10, best new seedling, not before exhibited, Francis Brill.  
J. W. Degrauw, \$10, best collection, not less than 20 varieties, 1 pint each, E. & G. Marshall.  
E. W. Ropes, \$5, best collection, not less than 12 varieties, A. S. Fuller.  
W. R. Anthony, \$5, best hanging basket of Plants, A. C. Chamberlain.  
John Williamson, \$5, best 2 quarts of Strawberries, in color, decided by donor, to E. & G. Marshall, Poughkeepsie, for "Jenny Lind."  
W. Napier, \$5, best collection of Herbaceous plants, not less than 20, A. S. Fuller.  
C. H. Van Wagenen, \$3, best and most tastefully arranged basket or bouquet of garden flowers by amateurs, Mrs. R. R. Story.  
The Committee recommend special premium of \$5 to Mr. Wm. J. Reddy, gardener to Mrs. W. S. Packer, for a single specimen Orange and Lemon growing and fruited on same tree.  
Also, that a special premium be awarded to Mr. A. C. Chamberlain, for his hanging baskets for ornamental flowers and fruit.  
Special premium of \$3 for a splendid specimen of the Scotch Thistle to Mrs. Henderson, Brooklyn.  
Special premium of \$5 for hardy trees in pots, to Parsons & Co.  
Special premium of \$3 for six variegated Fuchsias of great beauty to Mrs. John Humphries.  
Special premium of \$3 for a *Lilium gigantum*, to John Cadness, of Flushing.  
Special premium of \$5 for a Pyramid of Cut Flowers, to Thomas Cavanach.  
Special premium of \$10 for Plants grown in baskets of moss, to A. C. Chamberlain.  
Special premium of \$3 for basket of Wild Flowers, to Mrs. John Humphries.  
Special premium of \$3 for 20 varieties of *Gloxinias*, to Andrew Bridgman.

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

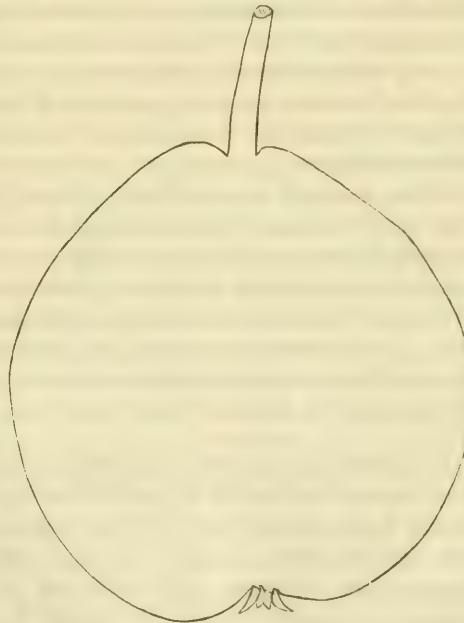
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AMERICAN POMOLOGICAL SOCIETY.—We elsewhere print the circular of the American Pomological Society. We are glad to know that the disturbed condition of the country will not interrupt its appointed meeting. The number of delegates will necessarily be fewer than at the last meeting in Philadelphia, and the country at large will not be fully represented. This is deeply to be regretted, but is no sufficient reason for postponing the biennial meeting. The business to be transacted will be the most important that has yet occupied the Society's attention. The imperfections of the Catalogue of fruits has long been seen and acknowledged. One important part of the Society's proceedings will be to remove these imperfections; every member should consequently come fully prepared to do his part in making the Catalogue as nearly perfect and reliable as may be. Each member should study the catalogue thoroughly, and scrutinize the claims of each particular fruit, divesting himself as far as possible of all prejudice, *pro* or *con*. A scrutiny of this kind is needed, not only for the List of Fruits for General Cultivation, but for the List of Rejected Fruits, and all others. It is quite necessary to have a list for trial, but it is complimentary neither to our judgment nor knowledge to place on that list fruits that have been grown all over the country for half a century. It is quite time that such fruits should have some definite place assigned to them. Let something be done, too, for our pomological nomenclature. We hope the standing committees and all the members of the Society will go to Boston fully prepared for the work before them.

LATE GRAFTING.—It is generally supposed that grafting must be done early in the spring, or it will not succeed; the rule is to graft before vegetation has begun. We have at various times practiced grafting up to the beginning of the second week in June, and with pretty uniform success. The chief difficulty to contend with is to keep the grafts from drying up on the one hand, or to prevent them from growing. Where an ice house is at hand, the difficulty is somewhat under control. Early in the season we received valuable grafts from Mr. Wilder, Dr. Brincklé, and others. Our purpose was to set them at once; but absence and

other causes made it quite impossible, and they remained in the cellar, covered with sand, till the 28th of May, when they were put in, some of them being quite dry and somewhat shriveled. They were cut into lengths of three or four inches, and most of them inserted by the common mode of split grafting. With some, however, the usual T cut for budding was made in the bark, the graft cut sloping at the end, inserted under the bark, and secured by tieing. All were thinly coated with grafting wax. Upwards of fifty grafts (apples and pears) were put in, and, with one single exception, are growing as finely as could be wished. The exception is a graft of two year old wood, and is breaking rather feebly, which was to be expected. We call attention to this late grafting, not as a remarkable novelty, but that our readers may know that late grafting may be successfully performed. Valuable grafts are sometimes thrown away, because it is supposed to be too late to put them in. In regard to the ripening of the wood, we have never had a late graft winter killed. There is no doubt a limit beyond which we can not go; but that limit we have not yet ascertained. The grafts put in by the T cut are growing quite as well as those put in the split. The T cut is more rapidly performed, but neither process requires much time.

THE LAFAYETTE PEAR.—Some time since we alluded to the Lafayette Pear, from Connecticut. It fruited at the time of Lafayette's last visit to this country,



and this circumstance suggested its name. It has not yet been distributed. From what we have seen of it, we judge it to possess considerable merit. We shall

probably have an opportunity of testing it again during the coming season. In the meantime we present an outline and a description.

*Form*, obovate, inclining to oval or turbinate; largest diameter near the center, and tapering towards the ends. *Flesh*, whitish, a little gritty near the core, but melting, juicy, sugary, perfumed, and moderately rich. *Calyx*, rather large and open, in a shallow, somewhat uneven basin. *Stalk*, long, straight, in a small cavity. *Skin*, rather rough, netted, sprinkled, and almost covered with light russet on a yellow ground. *Quality*, very good; may prove to be best.

MR. THOMAS HOGG.—Some few weeks since our old and valued friend, Mr. Hogg, bade us good by, and took his departure for a new field of labor in Japan. We parted with him, as did scores of others, with feelings of the deepest regret, having the consolation of knowing, however, that he was going to a field which had filled his dreams for years. Probably no person has yet visited Japan better fitted as a collector of plants. Clothed with the authority of the United States government, whence he received his appointment, the probability is that many places will be open to him which have heretofore remained mostly closed, and we shall look for a collection of plants such as has never before been sent to this country. Though his appointment from the government has strictly nothing to do with plants, we know very well that Mr. Hogg can not fail to avail himself of his position and opportunities to add to his own knowledge and enrich our collections. Something at last will be done to vindicate us from a just reproach. We expect a letter occasionally from Mr. Hogg to lay before our readers. We hope a kind Providence will watch over and prosper him in his undertakings.

FULLER'S STRAWBERRIES.—It may be remembered that a Committee from the American Institute last year examined Mr. Fuller's Seedling Strawberries, and selected some eight or ten of the best for further trial. The same committee have examined them again this season, and reduced the number to three, which they have recommended to be sent out. In arriving at a decision, the committee were governed by considerations having reference to earliness, size, firmness, quality, productiveness, vigor of plants, etc.; in other words, the greatest number of desirable points, rejecting all, however, that were defective in the leading point of good quality. No. 20, for example, though up to the mark in other respects, was thrown out for want of flavor. After several examinations, the committee finally fixed upon Nos. 42, 7, and 53 as the best, the difference in quality between Nos. 42 and 7 being small. No. 42, however, is firmer fleshed and more juicy, and probably a little earlier, though both are early kinds. Both of these are large and productive kinds, and robust growers. No. 53 is a later variety. It was its lateness alone which induced the committee to place it third on the list; for in other respects it is really a better fruit than either of the above. If it were a little earlier, or even somewhat later than it is, its value would be much

enhanced. As it is, however, it will take its place among the best. Among the Seedlings was one of remarkable size; but, unfortunately, it possessed a degree of acidity which insured its prompt rejection. Another, was a very high flavored, juicy berry, but deficient in size and some other points. Taking the whole collection together, there was more than the usual average of good fruit. We have made a "portrait" of one of these seedlings, and shall give it as a frontispiece. The following is a description of each:

No. 42.—*Fruit*, very large. *Color*, scarlet. *Form*, conical, sometimes flattened. *Flesh*, white, firm, and moderately juicy. *Flower*, hermaphrodite. *Seed*, dark brown, prominent. *Calyx*, large, moderately persistent. *Flavor*, very good. *Quality*, very good, if not best. The foliage is large and coarsely serrated; fruit stalk stout. Very productive.

No. 7.—*Fruit*, very large. *Color*, crimson scarlet. *Form*, irregularly conical. *Flesh*, light red, moderately firm, and somewhat juicy. *Flower*, pistillate. *Seed*, dark brown, imbedded. *Calyx*, large, non-persistent. *Flavor*, very good. *Quality*, very good. The foliage is large, of good substance, coarsely serrated; fruit stalk stout. Very productive.

No. 53.—*Fruit*, large. *Color*, light scarlet. *Form*, conical. *Flesh*, white, solid, and juicy. *Flower*, hermaphrodite. *Seed*, brown, prominent. *Calyx*, large, persistent. *Flavor*, very good. *Quality*, best. Foliage large, thick, and coarsely serrated. Very productive.

PROVIDENCE (R. I.) HORTICULTURAL SOCIETY.—We are glad to learn that our friends in Providence have a live and active Horticultural Society. They recently held an exhibition, and a friend just from Providence informs us that the display of fruits and flowers was highly creditable, especially the Fuchsias, Roses, and Strawberries, the tables containing specimens of each of great merit. Messrs. Jolls, Hogg, and others, are mentioned as among the principal exhibitors. We would suggest that our Providence friends "go ahead" and get up conversational meetings, and thus enlarge their sphere of usefulness. We shall very gladly publish all their good sayings, if sent to us.

THE DELAWARE AS A "FEEBLE" GROWER.—At one time an effort was made to produce the impression that the Delaware is a poor feeble grower; but it is now so generally distributed, that the impression, wherever made, must give way to facts. Mr. Kennedy, a well-known horticulturist of Louisville, Ky., gives us the following interesting particulars in his own experience; and they agree not only with our own experience, but with all that we have seen of the Delaware when under good treatment. We will remember your particular case, Mr. Kennedy, when we come to the third year's treatment. The following is the extract:

"The Delaware vine with me, after taking two years to get well-established, grows most vigorously. It throws out so many shoots, laterals, suckers, and branches, that I find it absolutely necessary to thin out two thirds of the present

season's growth in order to prevent the vines from *becoming one solid mass of inextricable confusion*. The joints are so short that every two or three inches develops a bud, which throws out two fruit-bearing shoots besides the sucker. These shoots thus grow so close together that they soon get tangled up and matted into an unmanageable mass. To remedy this, I first cleared off all the suckers, then all double shoots were reduced to single ones, and finally I have been compelled to cut off every other one of these fruit-bearing shoots before sufficient room could be found for the healthy growth of the remaining shoots. The vines had previously been trained and pruned just as you have recommended in the admirable articles you are now publishing in the HORTICULTURIST; that is, this spring I had one or two stout canes from each root cut back to five or six feet from the ground. The wood was near half an inch in diameter after two years' growth, and as *hard as iron*. Although I have thinned out this season's growth so severely, yet I am still disposed to think I have left too many branches. Out of some sixty kinds of vines which I am cultivating, the Delaware vine bothers me, in its management, more than any other, except the "Ohio Cigar Box." The latter vine grows as rampant as Miller's spurious Emily, but I can't bring it to bear fruit. The Delaware, on the other hand, throws out so many fruit-bearing branches that I do not know how to keep it in bounds. When you come to the treatment of the three-year-old vine, please take my vines under consideration, and tell me how to regulate them."

PLANTING PEARS IN THE FALL.—A subscriber, writing from Saint John, N. B., says: "I propose planting some dwarf pear trees this season, and would prefer planting in the fall. Would you, through the magazine, inform me whether you would apprehend any likelihoods of their being injured in the winter? Our winters are very severe, the thermometer ranging as low as  $16^{\circ}$  or  $18^{\circ}$  below the cipher; not often, perhaps two or three times during the winter; but not unfrequently as low as  $8^{\circ}$  to  $10^{\circ}$  below." Notwithstanding your cold weather, we, like you, should prefer planting in the fall. We should apprehend little or no danger from cold. A winter mulch of charcoal dust or long manure would be useful. We think you can safely go on with fall planting.

THE "AGRICULTURIST" STRAWBERRY SHOW.—This came off on the 20th, and was really a fine affair. It is too late to go into detail, but we may say that the exhibition was quite a large one, the varieties numerous, and the berries large and handsome. Several old kinds were exhibited, which we have not seen at a public show for many years. Their chief claim to distinction now consists in their advanced age; but we think it well to keep a few of them to mark the progress that has been made. We must do Mr. Weld the justice to say that he had every thing conveniently arranged for the judges and the public. It may be as well to explain here that the prize list required the award of *two* general prizes. If there had been only one, Triomphe de Gand would have taken it. It is necessary to ex-

plain further that the *best* dish of Triomphe and of the Wilson having taken the first prizes for market and family use, only the second best of each kind was left to compete for the single quart prize. The reader will understand that in this case the best berry for general cultivation is also the best for market. We would suggest to Mr. Judd and others, that hereafter, in making out a prize list, it be headed with the *best* variety of strawberry in the room, thus leaving the judges at liberty to select it wherever they may find it. The show of Seedlings on this occasion was particularly noteworthy, and attracted a good deal of attention. The principal exhibitors were E. and G. Marshall, Prince and Co., W. F. Heins, A. S. Fuller, W. A. Burgess, E. Williams, and others. The following is a list of the awards:

E. & G. Marshall, Poughkeepsie, N. Y. Largest and best number of varieties, 1st Prize, \$10.

Wm. F. Heins, Woodstock, N. Y. Second largest and best, \$5.

E. & G. Marshall, Poughkeepsie, N. Y. Best dish of Market berries, \$5, Wilson's Albany.

A. S. Fuller, Brooklyn, N. Y. Best dish for general (family) cultivation Triomphe de Gand, 1st Prize, \$5.

W. H. Goldsmith, Newark, N. J. 2d do., Ward's Favorite, \$3.

Wm. Shaw, Clifton, S. I., N. Y. 3d do., Longworth's Prolific, \$2.

Wm. F. Heins, Woodstock, N. Y. Best three largest berries of one variety, \$3, (Triomphe de Gand,) weight  $3\frac{1}{2}$  ounces.

A. S. Fuller, Brooklyn, N. Y. Best New Seedling, (Brooklyn Scarlet,) \$3.

W. A. Burgess, Glen Cove. 2d best, \$2.

W. A. Burgess, Glen Cove. High commendation of C, for size, good quality and productiveness.

John Drummond, Gardener to Mrs. J. H. Strong, Flushing. Best quart White Strawberries, \$2.

W. A. Burgess, Glen Cove, L. I. Best quart best flavored, \$2.

W. F. Heins, Woodstock, N. Y. Best quart Triomphe de Gand, \$1.

W. H. Goldsmith, Newark, N. J. Best quart Hooker, \$1.

J. B. Colgate, Glenwood, N. Y. Best quart Victoria, \$1,

Wm. Shaw, Clifton, S. I., N. Y. Best quart Wilson's Albany, \$1.

John Drummond, Gardener to Mrs. J. H. Strong, Flushing. Best quart Jenny Lind, \$1.

E. & G. Marshall, Poughkeepsie, N. Y. Best quart Vicomtesse Hericart de Thury, \$1.

**WILSON'S SEEDLING.**—We are indebted to Mr. Carmiencke for a box of the largest and best ripened Wilson's Seedling that we have seen during the season. The sharpness peculiar to this variety was pretty well subdued.

**ITEMS FROM OHIO.**—Messrs. T. & S. B. McMillan, of East Fairfield, Ohio, send us the following interesting items :

"In Eastern Ohio, our Strawberry season commences about the first of June with Jenny Lind, Burr's New Pine, Early Scarlet, etc., and closes about the fourth of July, with Trollope's Victoria, Moyamensing Pine, Triomphe de Gand, etc.

"Scott's Seedling appears to be the most popular *flavored* berry we have marketed. Triomphe de Gand took the premium offered by the Salem Horticultural Society on the best quart of strawberries, the past season. We hope to be able to test the Downter sufficiently, the present season, to compare it with other varieties. It promises well with us.

"The Peach buds were partly winter-killed, though we have not seen the thermometer below zero. Hale's early peach is attracting much attention in Ohio. It is said to ripen some weeks ahead of any other good variety, and to be, in all respects, a first class peach. May it prove a valuable acquisition."

A CORRECTION.—In Mr. Sargent's article on Evergreens, the heading should be 1861-62 instead of 1862-63. The article went to press before the correction reached the printer.

THE MARKET Book, containing a historical Account of the public Markets in the Cities of New York, Boston, Philadelphia, and Brooklyn, with a brief Description of every Article of Human Food sold therein, the introduction of Cattle into America, and notices of many remarkable Specimens. By Thomas F. De Voe, Member of the New York Historical Society, etc. In two volumes.—Volume 1 of this work has lately been published, and is in many respects a remarkable production. Going back to the earliest period of the settlement of this city, it gives the origin and progress of all the market places, together with a detailed account of the manner of doing business, the habits, customs, and laws of the people through many generations, historical reminiscences of all the prominent market people and dealers, and a full and faithful history of all events and places in any manner relating to markets or market business. As a part of the history of the City of New York, it deserves more than usual attention, covering, as it does, a field hitherto unexplored; and the fund of biographical lore and anecdote with which it is liberally interspersed, makes it one of the most readable books of the times. To the old New Yorker it must be of great value and interest, and many of the aristocratic leaders of the present generation can not fail to trace back their lineage to some of the many hundred names among the honored class of butchers. As a historian, Mr. De Voe is accurate and truthful, and the whole work shows a labored research; undoubtedly a labour of love, yet one that has required close application and a deal of hard work. We shall welcome with pleasure the appearance of the 2d volume, but sincerely hope that it will not end the historical writings of such an agreeable and instructive writer.

LA CAUCASE Currant.—Mr. Wilder informs us that this currant, referred to in our last issue, proves to be identical with La Versaillaise. Measurements of the size may be found in the 24th volume of Hovey's Magazine, p. 374. We

regard these large berries, however, as exceptional, and not general. Under the ordinary treatment received by the currant, we must adopt a lower standard; but such cases are notwithstanding valuable, as showing what can be done under the best culture, which we should all aim at.

**POLLYWOG.**—A fair correspondent, writing some time back, says, "Your answer to Francis Mary is amusing. We would suggest that the transformation you propose should not properly take place till warm weather, winter being rather an unfavorable season for the change; and even the ladies should not request it this cold weather." Now that's sensible and considerate, and we shall positively refuse to turn into a Pollywog for the present, and we hope the girls won't ask it, for we don't like to refuse them. Thank you, M., for getting us out of that "wriggle."

**OHIO BOARD OF AGRICULTURE.**—The Thirteenth annual fair of the State Board will be held at Cleveland on Tuesday to Friday, the 16th to the 19th of September, 1862. The prize list is ample and liberal, and competition is open to all. We hope they may have a good time. Information may be obtained by application to J. H. Klippert, Corresponding Secretary, Columbus, Ohio.

**AMERICAN POMOLOGICAL SOCIETY.**—We are indebted to President Wilder for the following circular. We hope its importance will not be overlooked.

"In conformity with a Resolution adopted at the last meeting of this National Association, the undersigned, President thereof, gives notice that its Ninth Session will commence in the Hall of the Massachusetts Horticultural Society, corner of Washington and West Streets, Boston, Massachusetts, on Wednesday, September 17th, 1862, at twelve o'clock, noon, and will continue for several days. All Horticultural, Pomological, Agricultural, and other kindred institutions in the United States and the British Provinces, are invited to send Delegations as large as they may deem expedient, and all other persons interested in the cultivation of Fruits are invited to be present, and to take seats in the Convention.

"The present season promises to be the most propitious for Fruit that has occurred for many years, and it is anticipated that the coming session, which takes place at the same time with the Annual Exhibition of the Massachusetts Horticultural Society, may be made one of the most interesting which has ever been held by the Society. All the States and Territories are urgently invited to be present, by Delegation, at this meeting, that the amicable and social relations which have heretofore existed between the members of the Society may be fostered and perpetuated, and the result of its deliberations, so beneficial to the country at large, be generally and widely diffused.

"Among the prominent subjects to be submitted at this session will be the Report of the Special Committee appointed to revise the Society's Catalogue of Fruits, and thus to ascertain what varieties are adapted to the different sections and districts of our country. The various State and Local Committees who have

not already made their Reports on the Revision are, therefore, solicited to forward them without further delay, to P. Barry, Esq., Rochester, N. Y., Chairman of said Committee. And it is further requested, that all other Reports, which are by the By-Laws made returnable to the General Chairman of the Fruit Committee, now deceased, may also be addressed to Mr. Barry, as aforesaid.

"Members and Delegates are requested to contribute specimens of the Fruits best adapted to their respective districts; to furnish descriptions of the same, their mode of cultivation, and to communicate whatever may aid in promoting the objects of the Society and the science of American Pomology.

"Each contributor is requested to come prepared with a complete list of his collection, and to present the same with his Fruits, that a Report of all the varieties entered may be submitted to the meeting as soon as practicable.

"All persons desirous of becoming members can remit the admission fee to Thomas P. James, Esq., Treasurer, Philadelphia, or the President, at Boston, who will furnish them with the Transactions of the Society. Life Membership, Ten Dollars; Biennial, Two Dollars.

"Packages of Fruits may be addressed as follows: 'AMERICAN POMOLOGICAL SOCIETY, care of Mass. Hort. Society, Boston, Mass.'

**THE ROSE BUG.**—Last year complaints were very general in regard to the numbers of this beetle. This year, as far as we have seen, they are quite as numerous as last year, especially in some portions of New Jersey. The woods and fields are alive with them, and it is no very uncommon thing to see fifty or more on a single rose. Cherry trees, in some places, have been quite stripped of their leaves. If this state of things continues, Rose Bug Societies will become indispensable; the sooner they are instituted the better. The Rose Bug is so tenacious of life, that ordinary means fail to effect its destruction; nothing seems to be really effectual but the foot, or knocking them into hot water; knocking them into a "cocked hat" might do, but has not been tried. Placing a sheet on the ground, and jarring the tree, the same as for the Curculio, will secure thousands of them, and then the life must be actually crushed out of them. This does not require so much time and labor as might be supposed. But little good, however, will result from individual effort, unless neighborhoods club together and act unitedly. In this way the Rose Bug nuisance could be subdued in a couple of years, so as to cease to be an annoyance. We do not believe it can be done in any other way. We simply wish now to call attention to the great increase of this evil, not without the hope that something will be done for its extirpation. *Action* is needed on the part of those who would have cherries, grapes, or fine roses.

**THE ASPARAGUS BEETLE.**—This pest, which we saw on Long Island for the first time about six years ago, in the neighborhood of Bedford, has since worked its way up as far as Astoria on the north, nearly or quite destroying the Asparagus plant in its progress. Last spring (1861) it was seen at Washington Heights,

on New York Island, and this spring (1862) it had progressed as far as Tubby Hook. It is very destructive to the Asparagus, eating it in all stages of its transformation. We have seen many fine beds utterly ruined, and in more than one locality the culture of Asparagus has been abandoned. We have been giving some attention to the nature and habits of this beetle, and should be glad to hear from all our readers who have been troubled with it, our object in this being to ascertain the limits of its field of operations. It is a matter which deeply concerns every man who cultivates a bed of Asparagus. The insect is not native to this country, but is an importation.

SMITH'S BEE HIVE.—In answer to inquiries, we wish to state that Mr. Henry A. Baker, of Dover, N. J., is the agent for the Bee Hive noticed in our last No.

SWEET POTATO PLANTS.—We are indebted to Mr. Murray, of Foster's Crossings, Ohio, for a box of Sweet Potato plants. After their long journey, they came to hand in fine condition, an evidence of good packing as well as good plants.

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## Correspondence.

EDS. HORTICULTURIST:—Pear trees have winter killed in Southern Wisconsin to such an extent as to discourage setting. We are subject to extremes of very severe cold weather, the thermometer sinking usually two or three times in the course of the winter 15 to 20 degrees below zero, and sometimes 25 to 30 degrees below; these cold spells are interspersed with mild, sunny, thawing days. Do you know, or do any of your contributors know, of any varieties of the Pear that will endure these extremes? If so, you will become the benefactors of this portion of the West by giving us the names and qualities of such varieties. Works on fruits do not enough discuss this specialty.

J. C. S.

[We believe that in all sections of our country liable to extreme and sudden changes of weather, the list of Pears must be narrowed down to a very few. In such places none but close-grained, hard-wooded varieties can be depended upon, such as the Seckel, Buskam, Oswego, and others. Protection, in this connection, is indispensable; and quite important, too, is a low-headed tree. To treat this subject properly, would require several pages, and these we will very soon give to the subject. Our Western friends, however, may materially serve each other by sending in the names of such kinds as have best succeeded with them; for, after all, actual experience must finally decide the matter. All who contemplate planting fruit trees on the prairies should at once begin the planting of belts of timber for protection; its importance can not be overrated. The too rapid growth of the trees we suppose to be another difficulty, but one not altogether beyond control.—ED.]

MESSRS. MEAD & WOODWARD.—Inclosed I send specimens of insects that are devastating our cherry trees in this vicinity, and in some cases I have found them on apple trees also. Nothing of the kind has been noticed on cherry trees previous to this season. In some gardens the trees are nearly black with them and their labors.

Yours truly,

A. P. PECK.

*Northampton, Mass., June 2, 1862.*

[The insects inclosed are the Black Aphis, the same that were last year so destructive to grain in many parts of the country. Fumigation with tobacco smoke, tobacco water applied with a syringe, the Gishurst compound, and whale oil soap applied in the same way, will destroy them. These remedies are all used in the green-house with sure results; but their wholesale application to large trees would prove a great labor. We know not how else, however, to get rid of them speedily.—ED.]

EDITORS OF THE HORTICULTURIST:—You ought to come straight out to old Wayne and enjoy our fruits. “Seeing is believing,” and eating is knowing, and I would like to have you know what fine fruit we have. Strawberries by the bushel; a few plates of those fine Burr's New Pine would make you, like a Broadway omnibus, at four o'clock, “going up, and all full inside.” The birds have eaten all the May Bigarreau Cherries, but the Gov. Wood and Tartarean, Black Eagle, Elton, and Rockport Bigarreau, will soon be ripe, to be followed by the Doolittle, the Antwerps, and the Brincklé, and the Lawtons; and chiming in to the same sweet stomach strains, the music of the apricots and peaches would fall harmoniously on the palate, the Seckel and the Fondante would play the tenor, while the Easter Beurré and the Duchess, will soon be large enough for thorough-bass. Now, if you have any music in your large souls, come on, and we will moisten the “thousand strings of your harp” with some pure American Oporto.

*Lyons, June 16th, 1862.*

Yours, &c., SYLVESTER.

[The above was not intended for publication, but there is too much dry humor in it to be lost, notwithstanding it ends with a wet subject. We know we ought to go “straight out to old Wayne,” and would if we could; but as we can't just now, are we to lose all those fine things, and the music and Port besides? What a Tantalus you are, to put in our sight, yet beyond our reach, such tempting things as the New Pine, Gov. Wood, Black Eagle, Elton, Brincklé, Seckel, Fondante, and pure Port! and this last must be good if made pure from your grape. We have now seen enough of it to be convinced of that. But look out for us till we come.—ED.]

MESSRS. EDITORS,—Being in a quandary, I appeal to you for assistance. In the Spring of 1861, I grafted a Delaware shoot upon an old Isabella root. It took very well, but, unfortunately, a contraband destroyed it, and I permitted one shoot from the old root to grow. It made about thirty feet of new wood. Wishing the vine to run on a trellis 18 feet off, I laid it down, covering about three feet at the

foot of the trellis with earth, and about the same length half way between the root and trellis; leaving the balance clear of the ground, in some places perhaps a foot. I did not bury the whole, for fear it would decay. The buds, of course, have thrown up shoots, many of them 18 inches high. So far I have permitted them to grow.

I contemplate burying the whole vine this fall, cutting off the new shoots to two or three buds to form roots. Now what I want to know is; did I do right in laying down such a length of new wood? Would it have injured the vine to have buried the whole? Would you let the shoots grow or pinch them off? Would it be better to bury the vine? If so, when? The old vine and root not being in the way at all, and having as many as I have room for besides, do you consider the old root any advantage to the new vine, provided the buried part at the trellis makes the usual amount of roots? Would you cut it off or let it stay? If cut, when? Next fall, I intend moving another vine the same way, and about the same distance, and would like to have your opinion through your valuable journal. Does it injure the fruit to have two varieties of vines on the same trellis, one above another? A place in your journal for answers to these Questions will very much oblige one who has a decided touch of the

GRAPE FEVER.

Dover, May 31st, 1862.

[There is no necessity for laying down such a length of wood; two or three feet at the end will fully answer the purpose. The shoots should be pinched off. We would not bury the vine, but cut it off about four feet from the end where it has rooted, the old root and vine, of course, being removed. Be sure, however, that the end has rooted nicely before you do this. We do not consider the old root of any advantage after the buried part has become well established, and we should, as remarked above, cut it off. It may be done this fall or next spring, but we should do it this fall, and treat the end as directed for young vines. In the other vine referred to, simply bury about three feet of the end, and allow no shoots to grow in the intermediate space. It does not injure the fruit to grow two varieties on a trellis in the manner alluded to; but it does injure it to grow them this way on an arbor. To be more explicit, if vines are grown horizontally one above the other on an arbor, the one beneath will produce poor fruit, whether it be the same kind or not.—ED.]

EDITORS OF THE HORTICULTURIST:—Can you, or any of your correspondents, tell me of a remedy or effectual means for the destruction of the grasshopper where it is not practicable to keep poultry? They last summer destroyed several new and valuable evergreens of small size, and badly damaged others.

Harrisburgh, June 9, 1862.

E. MANNING.

[We do not know of any effectual means of destroying grasshoppers, except keeping poultry, especially a large flock of turkeys. Can any of our readers help Mr. Manning to a remedy in this case.—ED.]

Oswego Horticultural Society.—There seems to be a general revival among Horticultural Societies, and we regard it as one of the good signs of the times. There is work for them to do, and they should be up and doing it. The Oswego Society has been resuscitated, and has entered upon an active life again. Mr. Davis, we believe, is the moving spirit, and the Society is not likely to die on his hands. A correspondent speaks thus of it:

"Our Society collapsed one day, and lay dormant seven years. In 1860—early spring—several of us took hold, and resuscitated it; gave a summer and fall exhibition, had good encouragement, and a fine show. This just about paid expenses. In 1861, went in again on one show; late frost and no cherries made a bad look for the summer fair; cut down our prize list, and had a "bully" fair in the fall. Came out ahead, financially.

"We now have a good library and case nearly 200 volumes, and about \$300 l'argent. The library we fell heir to; it belonged to the old concern. We have steam on now, although too far off for you to hear us blow. We are considering the propriety of giving prizes in kind. Vines, trees, rare seeds, etc., according to the tastes of the exhibitors. Books are not out of the way. Will consider on this also. The library is in my office."

Books, indeed, are quite in the way, and are much to be preferred to money prizes, which soon vanish. What, for instance, could be more appropriate than a bound volume of the *HORTICULTURIST*? We hope you may prosper abundantly in your good work.

MR. EDITOR,—Will you oblige one of your lady subscribers by giving, some time before winter, a plan for making a large window into a kind of conservatory or plant cabinet? I would like to know also how to heat it; whether from the room, or by something put inside of it, and what plants to put in it. Yours, A—.

[We will try to furnish you what you want; but there are so many different forms of windows, with such a variety of exposures, that one plan would not suit all. Each one would require some peculiar modification. Let us know what kind of a window you have, on which side of the house, and all about it. Mr. Prosser is now fitting up a tiny hot water apparatus, which we think will be just the thing for supplying heat to windows. We purpose putting it in the window of a friend for trial, and shall thus learn how well it is adapted to the purpose. Something of the kind is very much needed; something easy to manage, and not expensive. We hope Mr. Prosser's will prove to be the thing; if not, somebody else must try.—ED.]

MR. P. B. MEAD,—*Dear Sir*: I send you, by express, a plant or two of a seedling Strawberry (with the fruit) raised at this place, and believed to possess some qualities of unusual excellence. They are sent to you with the respectful request that you will examine and report upon them in the *HORTICULTURIST*. They are called here the "*Robinson Seedling*." They appear to us to possess the

following advantages: 1st. Unusual large size, great firmness, and beautiful deep color. 2d. Great vigor of growth, and known perfect hardiness. 3d. Almost perfect uprightness of stem, with such remarkable length as to hold the fruit generally above the leaves, thus exposing them to the influence of light and sunshine, and saving them from sand and earth, without the necessity of using tan bark, or other protection. 4th. They are very prolific, and will withstand hard treatment better than most kinds that we cultivate. 5th. Quality best.

Chillicothe, Ohio, May 31, 1862. Yours respectfully, HENRY BAILY.

[We regret to say that the above box of Strawberries came to hand in such condition, that we were quite unable to judge of their quality. Not a berry could be found that had not begun to decay, and most of them had run together in a fermented mass. Cotton is not a good thing to pack Strawberries in. If the roots of the plants had been packed in dampened moss, the berries on them would have kept very well; but they were completely dried up. We could see, however, that the plant was of very robust habit, having a strong, upright stalk, with berries of a large size. We should judge the plant to be very productive. We are as much disappointed as Mr. Baily can be, the Strawberry being one of our specialties. We would walk a long distance to see your Strawberries in good condition.—ED.]

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ADULTERATION OF COFFEE.—We make the following extract from a report to the American Institute on the Adulteration of Food in New York. There can no doubt, that in some instances the vilest substances are compounded with the luxuries, and even the necessities of life, in all our large cities; in other instances comparatively innocent articles are used for the same purpose.

“The Committee having the subject of ‘*Frauds*’ under consideration, finding it too voluminous for one essay, propose to divide it into compartments—giving the first to ‘*Coffee*.’

“The tree, bearing this useful and world-cherished berry, is said to be indigenous in Southern Abyssinia, growing like a wild weed over the rocky surface of the country. The roasted seed has been used from time immemorial. In Persia, as early as A. D. 875; in Arabia, in the beginning of the fifteenth century, and a century later we find it in general use in Constantinople. The first coffee-house in London was opened in 1652, by a Greek named Pasqua, and twenty years later it found its way to France. There, and in other countries, it is now the daily and almost *necessary* drink of hundreds of millions of people. Of the increase of the cultivation and export of coffee, we may well judge from the fact that the European consumption a few years ago amounted to 186 millions of pounds, while it takes 600 millions of pounds to supply the coffee-drinking world at the present time.

“A remark or two on the coffee-tree may not be uninteresting. It delights in

a dry soil and a warm situation, attains in different countries the height of eight, ten, and sometimes twenty feet, bears a dark and shining foliage, and (under favorable circumstances) yields its fruit for twenty years. If used and not abused, it may be considered one of 'Heaven's best gifts' to man.

"It exhilarates, strengthens, allays hunger, and imparts to the weary traveller both comfort and repose. The genuine berry contains three valuable ingredients, viz.: a volatile oil, (produced in the roasting,) a variety of tannic acid, and the substance called 'theine,' or 'caffeine,' (which is common to both coffee and tea.) In this (as its original state) it is probably cheaper than any of its substitutes, which (wanting these elements) are *not coffee at all*; but, alas! it is seldom allowed to stand on its own merits. The desire to avoid the 'tax,' (which makes coffee an expensive indulgence, aided by that 'love of money' which is the 'root of many evils,') prompts to 'tricks of the trade,' beginning with those who 'cheat a little to make an honest living,' and ending with those who cheat without visitings of conscience. From the first, (who advertise 'pure coffee at 20 cents per pound,') you may breakfast on a beverage made from five pounds of coffee and two pounds of chickory. From the last, you may be thankful if the peas and beans burnt and ground for your morning draught were not discolored and spoiled before you bought them as 'a genuine article.'

"Frauds to an increasing extent are practiced on those who buy ground spices. The 'mustard,' so nicely boxed and labeled, is not mustard at all. In most cases it is the meal of yellow kiln dried *corn*, ground fine and flavored with cayenne pepper. 'Ginger' is often made of similar ingredients, with the addition of some of the original article to give it taste and smell. 'Ground pepper' is frequently made of pilot-bread burnt in baking, or damaged by a long voyage; and there is one firm in *this city* engaged in buying this refuse stuff from ships, and selling it again as 'pepper,' after a sufficient amount of the genuine is mixed with it to '*swear by*.' To guard against these impositions, (or one of them,) we propose to re-establish the good old coffee-mill. It will prove a better guard against the grocers than an army of policemen; and if you are fond of prolonging morning reveries, what could be a more agreeable reminder of getting-up time than the coffee-mill?

"The newspapers are now freely discussing substitutes for coffee. Burnt rye, wheat, barley, sweet potatoes, chestnuts, acorns, burnt bread, each has its advocate, and *all* may answer for those who, with limited sensibilities, know not *what coffee is*. Not one of these articles will make coffee, and if their merit is being *cheap, water is cheaper*.

"The seeds and roots of many West India and South American plants have been introduced as substitutes for coffee. The only one we have time to notice is the "Succory," "Chickory," or Wild Endive, a weed with large pale blue flowers, and having a white tap-root like the parsnip or oyster plant. This root abounds in a bitter juice, which has led to its use as a substitute for coffee. It is

found to be much improved by cultivation, and is now so much used as to have become an important crop. You may find it growing in some of the counties of England, but much more in Prussia, Belgium, and France. It is grown also in parts of South America, and its cultivation is being introduced into our own country, especially on Long Island. This root, when dried, roasted, and ground, so exactly resembles genuine coffee, as to be a first rate article for adulterating purposes, and has now been used so long in that way as to have created a taste, and there are many people who think they have been cheated, if their coffee has not the flavor given to it by chickory. They have become educated to like a *bitter coffee*. It is now estimated that France uses annually twelve millions of pounds, and in some parts of Germany the women are regular chickory-topers.

"Some of the ingredients of this weed bear a partial resemblance to those of tea and coffee, but when taken unmixed, by those unaccustomed to it, it is disagreeable and nauseous to a high degree. The taste, however, is soon acquired, and as it has some strengthening and tonic properties, it is probably not injurious if taken moderately, but by prolonged and frequent use, it produces heart-burns, cramps in the stomach, loss of appetite, acidity in the mouth, weakness of the limbs, trembling, sleeplessness, and a drunken cloudiness of the senses.

"An admixture of chickory in coffee can be detected by putting it in cold water; it is soluble, and imparts its color to the water in proportion to its quantity. The coffee is insoluble in cold water, and, of course, gives it no color. Johnston tells us, in his Chemistry of Common Things, another reason why the use of chickory should be avoided by those who can afford to buy pure coffee, is found in the fact that pure chickory is as difficult to be met with in the market, as unadulterated coffee. Venetian red is very commonly employed to impart to the chickory a true coffee color; and it is curious to observe how the practice of adulteration extends itself from trade to trade. The coffee-dealer adulterates his coffee with chickory, to increase his profits; the chickory-maker adulterates his chickory with Venetian red, to please the eye of the coffee-dealer; and, lastly, the Venetian red manufacturer grinds up his colors with brick dust, that by greater cheapness, and variety of shades, he may secure the chickory trader's patronage.

"In conclusion, we ask every housewife to help us in our efforts to break up this nefarious trade. Buy no more coffee ready ground. The pure article at its full price is cheaper than any other mixtures, no matter how low the price asked.

"In buying these ground mixtures you not only cheat yourselves, but you put money into the pockets of dishonest dealers that you suppose goes towards paying the just and necessary tax, now required by our government to save itself from threatened destruction.

"If you can not afford the genuine article, roast your own rye or barley, or drink milk or water, but give no more money for these fraudulent mixtures."





HYBRID PERPETUAL ROSE, EVEQUE DE NIMES.

Engraved for the Horticulturist.

THE  
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*Hints on Grape Culture.—XVIII.*

IT may as well be stated here that we purpose taking up and following out one system of training at a time. The attempt to describe several modes at the same time must inevitably produce confusion. This course may make some repetition necessary, but that is a small matter compared with clearness. It is better that the reader should have a clear apprehension of one system than confused ideas of many. The subject is not likely to prove irksome.

We left the vines at the end of the second year ready to be pruned. We will suppose it is late autumn, the wood being ripe and ready for the knife. The first vine in a row has a single cane; the second has two canes; the third has one cane, and so on alternately, every other vine having two canes. It will not matter much, however, if some of those indicated as having only one cane should have two. We will suppose, however, that the vines are in the condition first named, every other one having a single cane. Our object now is to begin the formation of the arms. These, as already stated, might in some cases be formed at once of their full length; but we think it is very much better not to do so. The arms, when formed at once, are never as strong as they are when formed by degrees; and not only are the arms not as strong, but the buds also partake of the same weakness. The latter circumstance forms a very serious objection to the immediate formation of the arms. It is, indeed, a matter of the very first importance to have the buds strongly developed from the beginning, and this can not well be done if the arms are at once formed of their full length. It is even more important that the buds near the trunk should be as strongly developed as those near the ends of the arms, and this is impossible where the arms are left their full length at the beginning. The flow of sap tends to the ends of the shoots, and the buds at the ends, consequently, are the strongest when left to themselves. This

tendency of the sap is natural, and can only be overcome by artificial means. The whole vine, when under cultivation, is to a considerable extent placed under restraint, and the flow of the sap must be made to yield to the same condition, when the largest and best results are sought to be obtained. It is a matter of every day observation that the vine, in a state of nature, is entirely destitute of fruit wood near the base, and for a considerable distance above it, the fruit being borne principally near the ends. The same state of things is found in vines badly trained, especially on arbors, a bunch of grapes being scarcely ever found within three or four feet of the ground. One of the principal objects of training is to control this tendency to bear at the ends of the shoots, and to place the fruit wood in such positions that each square foot of the trellis shall yield its due proportion of fruit. This, happily, can be done with comparative ease if some good system of training is adopted when the vine is young. We dwell somewhat on this point because there is a prevalent opinion that training can be adopted at any time. Many, indeed, seem to think that it is a matter of no moment how their vines grow during the first two or three years; no greater mistake could be made. Unless a right direction is given to the arms and buds when the vine is young, no after treatment, however skillfully applied, can properly develop them. The only recourse, in such cases, is to cut the vine entirely down, and begin anew.

Now let us see what is to be done in order to develop the buds near the trunk. We have two canes to be pruned for the formation of arms; if the vines are four feet apart, the arms will be four feet long. If we leave them of this length, the buds near the trunk will be weak, not only now, but always hereafter. Instead, therefore, of leaving them four feet long, cut them two feet. The sap, in this case, having a shorter course to run, will distribute itself more equally among the fewer buds left, and give them a fuller development; in other words, its power, confined within narrower limits, becomes intensified, and the points of application receive an increased impetus. But, to develop the base buds equally with the end buds, something more than shortening in the arm is necessary, as will be presently explained. The pruning, therefore, will consist in cutting the arms to half their proposed length, whether it be four or six feet. All laterals and superfluous shoots must be entirely cut away, leaving nothing but the piece of cane intended for the arm. The cutting should be close, and neatly done, in order that the wound may heal over nicely.

We have stated that the arms on every other vine will be formed three feet above the first wire. These arms can not, of course, be formed this season, and every other vine, therefore, must be pruned to a single cane three feet long. If, however, the canes should not be strong enough to leave this length, they must be cut shorter. So, too, if any of the other vines are not strong enough to leave two feet of the cane for arms, they also must be cut shorter. The canes in all cases must be cut back to strong wood. One foot of strong wood is better than

two feet of weak wood. In pruning the vine, therefore, the undeviating practice must consist in cutting back to good, well-ripened wood. We have mentioned two feet above, because nearly every vine, if well grown, should have much more than this; but there will always, even under favorable circumstances, be a few weak subjects, and these must be strengthened by a free application of the knife.

The vines having been pruned, it may be advisable, in some cases, to cover them. At the first year's pruning this was done by simply drawing some earth around them in the form of a hillock; but the canes are now too long to be treated in this way. It will therefore be necessary to bend them down and throw a few inches of earth over them, only just enough to hold them down, for too much covering is apt to prove hurtful. The vines must be bent gradually and carefully, and pegged down if necessary. As the vines grow older they will bend easier, an old vine having more elasticity than a young one.

Having placed the vines in winter-quarters, we will leave them there quietly for the present.

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## REJUVENATING OLD HOUSES.—NO. II.

BY MYRON B. BENTON.

THERE are undoubtedly many houses of the kind referred to in the previous article, which it is better to tear down than to attempt repairing. But this is not often the case with one which has been kept in good repair, even if it be a century old. If your house is tolerably good as a protection from the weather, but which for other reasons it is desirable to repair, listen not a word to the earnest solicitations of your carpenter about its being cheaper to build entirely new than to attempt any thing with such an old structure. If it is pleasanter for him to work up fresh materials, it will not be for yourself to pay for them when all the bills are brought in. I know one old house—a part of it built more than a hundred years ago—which has been recently repaired, and very satisfactorily too, at a cost of about \$1,200, giving accommodations which would have cost in a new house not less than \$3,500 to \$4,000.

Perhaps the mere item of tearing down a house is not sufficiently appreciated by one who has never tried it. One who has, I heard remark that it is nearly as cheap to set fire to the building as to attempt saving the materials by taking it apart.

As any general plan of arrangement has been necessarily out of the question in these old farm-houses, where a thorough repair is undertaken, much more skill is required than for an entirely new one. The kitchen-wing having suffered most, the best planning of the architect will be required there. It will do to skirmish with slight attacks around the front ranks, but a few bold strokes must be made

in the rear, or the battle will be lost. The kitchen, especially if it be also the dining-room, must have one side with a light, cheerful outlook. Generally a few cumbrous lean-tos must be sacrificed, that two or three large windows may be made, not under a deep, low veranda, but receiving the perpendicular light. After that is accomplished, considerable skill must be exercised in grouping those apartments which properly belong together.

In order to avoid too many rooms opening directly from the principal one, a passage may sometimes be constructed to connect with several. It is wonderful what a change for the better may be accomplished by a little adroit management and a few bold destructive attacks on the kitchen-wing.

It is impossible to particularize with regard to the various parts in a class of houses varying so widely in their places. The living-room ought, of course, to occupy the pleasantest position. Its bay-window (which, if there be any, should be here instead of in the parlor) should command a view of the best features of the surrounding landscape. It is well, too, that the highway be in plain view from this room. There is an affected taste prevalent in this matter. It is thought vulgar to care about what is going on in the street. For myself, I will acknowledge that I like occasionally to see the physiognomies of friends or strangers who are passing. There is much of sociality even in a glance or a nod of the head, though no word be exchanged.

In repairing, above all avoid pretension in the style; it is disgusting in a new house, but intolerable in an old one. Do not assume that it is a new house, but leave, if possible, some impression in its features of venerable age. Let the house show that it is an old one, and is not ashamed of it, though in a new dress. A grandmother is always more presentable if in a clean cap neatly plaited, but her gray locks are far more beautiful than if they were dyed jet. Leave the roof with a pitch of forty-five degrees, and watch the boss-carpenter closely when he comes to the cornice. It may be sometimes necessary (so untractable is this class of men) to deface in the night what has been wrought in the daytime. But a few blows with a hammer will easily demolish the flimsy ornaments to which I refer.

The color for the exterior should be carefully selected. A reaction in the public taste from glaring white has resulted in hues no less objectionable. Any thing gloomy should be avoided.

Every thing about the exterior of a house should combine to give a look of repose. How few do we see that attain this! how many wear an *uneasy* look! as if they were not contented in their position. The latter expression is often produced by the roof being too much broken with dormers and gables.

I have a few words to offer with regard to the grounds immediately surrounding some of these old farm-houses, which, with your consent, Mr. Editor, may be given in another article.

[We shall be very glad to have the promised article on the treatment of the

grounds. It is a good field for criticism, and we hope you may be as successful with it as you have been with the old farm houses. There is one point, however, in regard to old farm houses which has been overlooked. These are in many instances so badly located, that one often feels inclined, though reluctantly, to pull them down for this reason alone. Where the house is properly located, we should hesitate long before destroying it, but we should hardly attempt to "rejuvenate" it, unless the house and its surroundings were pleasantly situated, or could be made so. This can sometimes be done, and a very considerable outlay thus spared to the owner.—Ed.]

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### THE EARTH-WORM—ITS USE.

(*From the Scottish Farmer.*)

REAUMER calculated that the number of worms in the earth exceeds the grains of all kinds of corn used by man, and as, perhaps, there is no other animal so preyed upon without any diminution in number as the earth-worm, the calculation may be not far wrong. Hedgehogs, frogs, and moles devour it; beetles prey upon it, and often cast their young upon it; and but for the earth-worm a large portion of the bird family would soon deteriorate or perish, for, with the exception of the finches, there is scarcely a bird, from the robin to the wild goose, but eats it, and many, during open weather, live almost solely upon it. After a summer shower, the farm-yard ducks actually race against each other along the road side in search of it; and on wet days they each devour hundreds. All river fish feed to a great extent upon it; and wherever the river beds are of a clayey substance, worms are more plentiful than in *terra firma*. The river worms are darker in color and flatter as a whole than the earth-worms, but so little do they differ in appearance that a novice could not tell the land from the water-worms. The worms in the water live under the imbedded stones, and trout are generally on the watch to gobble them whenever they leave their abode; they even move and turn over the stones in search of the worms and larvæ of water flies. When a flood comes the stones are generally displaced in great numbers, and at such a time (in a river such as the Tweed, for instance) the worms must be dislodged and carried along the river bottom in tens of thousands; and it is from this cause that the trout are generally gorged with worms and larvæ when taken after a flood. It is for such food, too, that ducks are constantly *jumping* among river shallows; for, if watched, it will be seen that they insert their bills below, or move, mostly all the likely stones they pass. We have frequently turned up worms at a depth of about a foot in the river.

But though the worm yields a considerable amount of food to the birds and fishes that grace the dinner table, it is much more beneficial to man as a fertilizer of the land. Subsisting on the earth through which it burrows, with an occasional meal from a decaying tuber or leaf, its peculations from the husbandman are

of the smallest nature ; whereas it lightens "the earth's surface" by its burrowings, and thereby aids the spreading of the roots of all cereals and bulbs ; and the burrows also carry down water after heavy rains, that, but for them, would often gather in surface pools, and thereby injure the crops ; they also admit the air to the soil to a depth which by natural means it could not reach. The earth ejected by them also tends to the improving of the soil ; and instances are known whereby these droppings or "worm-casts" caused in a few years a considerable increase in the depth as well as in the quality of the soil. Mr. Darwin, the naturalist, gives an account of a case of this kind which he tested, and from experiments, he clearly proved, that in an old pasture, a layer of cinders and lime had been covered in a few years to the depth of an inch, by the castings of worms. "On carefully examining," he also wrote, "between the blades of grass in the field above described, I found scarcely a space of two inches square without a little heap of cylindrical castings of worms." Now, a week or two ago we chanced to walk through a very old pasture, and we were much struck by the number of worm-casts it showed. They were, we are certain, nearly, if not as numerous as those mentioned by Mr. Darwin, and they darkened the field so much, though the grass was growing, that they caused some parts of it to look as if newly top-dressed. And when the fine soil thus raised gets spread by the feet of sheep or cattle, we doubt not but a stimulating top-dressing it will make. We have since examined several old pastures, and the castings were numerous in each ; but we noticed that they were fewest in the pastures where lime had been most used. This we set down to the hurtful effect that lime will be likely to have upon the wormlings.

The earth-worm is in more cases injurious to the gardener than the farmer. The giant lob-worm occasionally carries the main leaf of a young plant boldly into its hole ; and in gardens the barrenness of the soil enables the observer to notice that it is a common thing for a worm to drag straw, grass blades, plants, leaves, etc., into its hole ; but for what purpose these are carried down nothing definite is known. The things taken down, however, pass into manure. The worm in the garden has its uses if it has its faults ; and when it partakes of "green meat," which it never does extensively, the food selected is generally some vegetables or root rendered soft by decay.

They do not penetrate the soil to any great depth, because they require air. In stiff soils they are not generally found much beyond a foot from the surface, but on lighter soils, through which they bore with much more ease, they may be found deeper. At all events, they go deep enough to permeate the soil, and air and drain it, at a depth to which the plow can not reach, and for which, we fear, they get but little credit. Indeed, their usefulness is seldom thought of, whereas by the many they are still ignorantly looked upon and loathed as the "wriggling tenants of the grave."—

[The above from the *Scottish Farmer* is a good vindication of the much-abused earth-worm. Except when they get in pots, we do not think them injurious to the gardener ; on the contrary, we esteem them one of his best friends.—ED.]

## STRAWBERRIES AND PEACHES IN SOUTH ILLINOIS.

BY A. BABCOCK, SOUTH ILL.

EDITOR OF THE HORTICULTURIST,—The varieties of Strawberries fruited here this season are as follows:

Wilson's Albany is grown more extensively here than any other, and fully sustains its reputation for great productiveness, good size and firmness of berry, making it *the* sort for shipping north. Greatest yield here this season was 50 bushels from a quarter acre. With best culture a larger crop would undoubtedly be had.

Triomphe de Gand has been fruited by several here this season; fine large fruit, healthy, good grower; hardy enough, but not as productive as Wilson by about 40 per cent.

Downer's Prolific. Quite productive, fair size; berry rather soft to bear transportation well; a very little earlier than Wilson; is not suitable for hill culture, as it does not bear any better than when allowed to cover the ground; sends up runners in great profusion.

Hooker does not bear as much as Wilson by one-third with same culture and soil; does not average quite as large, but much superior in quality.

Jenny Lind. Only two or three days earlier than Wilson; a pretty fair bearer, but many of the berries *small*, rather soft, flavor rather insipid to *my* taste; not suitable for hill culture. My first choice for market is Wilson; second choice Downer's Prolific; first choice for family use Hooker; second choice T. de Gand.

I do not think the "Bartlett," which Mr. Fuller speaks so highly of, has been tried here.

The Strawberry crop of Egypt this season was shipped mostly to Chicago in round quart boxes, and sold at from 15 to 50 cents per quart; average price about 20 cents. Freight from here to Chicago, by express, \$1 per 100 lbs.

Our Peach trees are well loaded with fruit in all situations, high and low. Budded trees are bearing as well as seedlings, although but few of our orchards of budded trees have been set more than two or three years. Our most popular early market peach yet tested is Troth's Early Red. This variety ripened here last year a few days earlier than Serrate Early York, and sold readily in the northern cities at \$2 50 per box, (half bushel.)

Serrate Early York bears well, and has been planted largely. Crawford's Early does not sustain its eastern reputation here as a great bearer, although it does pretty well. But few trees of Early Tillotson in bearing here yet, but those who have fruited it think it higher in quality than either of those named above, but not quite as early as Troth's Early.

Galbraith's Seedling, originated by Mr. Galbraith, of Mount Vernon, Ill., is

thus described to me by those who have seen the fruit: a little larger than Troth, and fully equal to it in quality; time of ripening about the same; not quite so good a bearer. It has not yet been fruited in this country, but is being propagated and planted considerably a little north of this. "Hale's Early," of Northern Ohio, has not been fruited here, but as it is highly recommended by such men as Dr. Warder, M. B. Bateman, and others, we shall propagate from it quite largely for future planting. It is *said* to be very early, of excellent quality and good size. Our later varieties are very numerous. Those most planted are Large Early York, Oldmixon Free, Stump the World, Crawford's Late, Heath Cling, Ward's Late Free, etc. We have several superior Egyptian seedlings, some of them being equal in size and flavor to such as Crawford's Late, but none of them are very early.

[This is another good report from "Egypt." We should be glad to have more such from there and elsewhere. The Hooker is undoubtedly the best flavored berry of all those you name. When grown in a soil that suits it, it bears a good crop, and is then the best of Strawberries for family use; but in some places the product is small. We should be sorry to be without it. At the East, the Triomphe is usually more profitable than the Wilson as a market berry, besides being much better fruit. We should like to see some of your Egyptian seedling Peaches.—ED.]

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### ON FUNGI, THEIR RELATION TO DISEASE.

BY JOHN LOWE, M. D., M.R.C.S., ENGLAND,

Fellow of the Botanical Society, Edinburgh, Corresponding Member of the Botanical Society of Canada, Surgeon to the West Norfolk and Lynn Hospital.

It is now more than twenty years since it was first discovered that vegetable growths could exist upon the human body. From the earliest age diseases of the skin were known and described: the symptoms and appearances they presented were matters of ordinary observation, and rules of an empirical character were laid down for their treatment.

During all this time, it is probable, nay, almost certain, that in some forms of the disease fungi were constantly present, but it was not until the year 1839 that this fact was demonstrated. To M. Schœnlein, of Berlin, we are indebted for this most important discovery, which, but for the rapid advance that has been made in scientific knowledge during the present century, and above all in the proper use of the microscope, would, like many other wondrous things, be still one of nature's own secrets. Even now, strange to say, there are those who regard the growth described by Schœnlein as an abnormal production of the body, and

deny its vegetable origin; but a vast amount of accumulated evidence leaves no room for doubt upon this point, to any one who is at all conversant with the character, structure, and behavior of the humblest individuals of the plant world, the Fungi.

Regarding it, then, as an established fact, with botanists and the medical profession generally, that a fungous growth is really present in the majority of skin diseases, I shall abstain from entering on the discussion of the reason for upholding this opinion, and leave the facts, to be presently mentioned, to speak for themselves; suffice it to say here, that men of the greatest eminence as botanists and physiologists entertain no doubt on the subject.

We have, however, another and a larger class of observers, who, while they admit the presence of the fungus, disclaim for it any title to be considered as an originator of disease, but regard it rather as a foreign and accidental visitor, engendered and fostered by the products of a pre-existing malady. Upon this more important dogma, which has, in this country, been the subject of much argument, I propose to speak at greater length, inasmuch as it is a question of considerable interest, in a medical and hygienic point of view.

Before doing so, however, let me point out some of the various forms of fungi which have been noted, as occurring upon animal organisms, in order that I may put before you the salient points which are worthy of interest and attention. The whole of these lower fungi are ascribed by botanists to a subdivision of the family, which has received the name of *Hypomycetous*. They are minute microscopic plants, consisting, in their perfect state, of a mycelium, that is, a net-work of fine capillary tubes or filaments, from which springs an upright, hair-like stalk bearing at its extremity a collection of spores or sporules—the seeds of the plant. These have a diameter of about  $\frac{1}{3000}$  of an inch, and from their extreme lightness are capable of floating about in the atmosphere, and are wafted by the air to every quarter in incalculable myriads.

Whenever they alight upon objects favorable to their growth, as upon decomposing organic matter of any description, they readily germinate, provided there be sufficiency of warmth and moisture, both of which are essential to their well-doing.

Let us follow one of these spores, thus located, and watch its development; we shall then have the key to the behavior of the rest. When first given off from the fruit-stalk it is a spherical cell, consisting of a cell-wall filled with homogeneous molecular plasma, but without a nucleus; on the application of warmth and moisture the cell assumes, in the first instance, an oval form; the cell-contents become granular, the granules ultimately coalescing to form one or more nuclei. In its next stage, it becomes elongated, until its length exceeds its breadth by two or three times, and now we observe small eminences arise from its extremities; these are buds, which, in their turn, become elongated cells, and then give off other buds or shoots, each in succession acquiring additional length, until, finally, we find them as

filaments or thread-like cells, crossing each other in all directions, and forming a network which is termed the mycelium.

At a more advanced stage, these filaments are seen to contain numerous nuclei and granules, and now, several slender threads are pushed perpendicularly upwards; these are fruit-stalks, the terminal cell of which undergoes budding or segmentation, until a large number of spores is formed into a capitulum or head. These, like the original cells we started with, are spherical, and their arrangement varies in different genera; for example, being collected into a round head or glomerulus, as in *Mucor*; or into a brush-like one, as in *Aspergillus*, so named from a fancied resemblance to the brush used for sprinkling holy water in Roman Catholic Churches.

Such is, briefly, the mode of development of these minute plants under favorable conditions. But there are occasional deviations to be met with, which are deserving of attention, as throwing a clearer light upon certain forms which are to be mentioned presently. This will be manifest when I state that, from the results of numerous experiments I have made, the plant may be caused to remain in any one of its different stages of growth by supplying it with food suitable for that purpose. The bearing of this statement will be seen in the subsequent remarks upon the identity of the parasitic fungi. A familiar illustration of the power above mentioned is to be observed in common yeast, which presents itself as a collection of spherical cells containing nuclei, and capable of endless multiplication in two ways, viz: by the formation of buds, or by the bursting of the cells and the liberation of nuclei, which become cells. Yeast is derived from the aerial spores of one or more common species of mould. This I have proved by experiment; and I have recently obtained additional proof of the correctness of this view from the examination of spontaneous yeast of the tan-pits kindly forwarded to me from Kingston, Canada, by Professor Lawson. This in no way differs from brewer's yeast which has been long kept. The favorite fruit of the yeast-cell is sugar, upon which it acts in such a manner as to disturb the feeble combination of its chemical elements. This process, which is termed *catalysis* by chemists, causes decomposition of the sugar and a new arrangement of its particles, giving rise to carbonic acid and alcohol. Sugar is essential to the maintenance of yeast in its integrity. As soon as its requirements in this respect fail to be supplied, the plant turns for its prey upon the new element it has evoked, the alcohol, which is at once converted, by a similar process, into vinegar. Here the cell becomes changed in form. It is now oval, and this condition, which has received the name of *Torula*, it may be made to retain indefinitely; but under ordinary circumstances, it proceeds to convert the acid into other compounds, and its development goes on rapidly until it has assumed the form of a filamentous mycelium. In this stage, again, it can be retained at will, as the vinegar plant, or, as it is popularly termed, the "mother" of vinegar, which possesses the power of at once converting saccharine matter into acid, apparently without the intermediate alcoholic fermentation. If now exposed to the air,

it completes its growth by producing spores, which in their turn go through the same cycle.

With this slight sketch of the natural history of one of these minute beings, we will now notice some of the more important effects which they are reputed to produce. And, first, let us glance at their influence on the higher forms of vegetables.

It appears certain that before any great damage can be done by these parasites, there must pre-exist in the objects of their attack an unhealthy condition of structure, resulting partly from being deprived of some chemical element essential to healthy growth, and partly to atmospheric changes which tend to foster a too rapid formation of cellular tissue, at the same time that they favor the rapid development of the parasite. The result of these changes in the plant is a lowered vitality, rendering it prone to the attacks of the fungus, which, once having found a habitat, spreads with prodigious rapidity, and by setting in motion chemical changes similar to those already spoken of, soon involves the whole plant in decay. Examples of this will be familiar to you, as in the case of the potato disease, which not many years ago brought England to the verge of famine, and in Ireland, which depends almost solely on this crop, was the cause of untold misery and destruction.

The failure of the vine crops in Spain and Portugal was owing to the ravages of another species, *Oidium Tuckeri*; and in some seasons the wheat crops in this country are to a great extent damaged or destroyed by another of these minute pests, which, under the name of mildew, often in the course of a single night, converts whole fields of waving corn into black, useless rubbish. Dry-rot in timber is another example of the destructive power of this group. Nor are these the only commercial interests which thus suffer. The production of silk is often a complete failure, owing to the silk-worm being infested by a minute fungus, the *Botrytis Basiana*, which, entering, probably by the spiracles or breathing apertures, insinuates itself into the blood-vessels and destroys the insect. Damp and want of cleanliness are found to be the cause of the attack. Other species again have been found in flies, beetles, eggs, in the air sacs of birds, on fish, reptiles, and animals, the mention of which would encroach too much upon your time. A great part of those which have received distinct names, as well as nearly the whole of those from the human subject, I have proved to be mere initial or imperfect forms of one or two common species of mould which occur every where upon decaying organic matter, as cheese, apples, oranges, etc. The number of plants thus degraded from the rank of species is about thirty-four, and I doubt not that many others might be placed in the same category.

The first discovery of a vegetable parasite on man was, as I have said, made by M. Schenlein, of Berlin, while examining the crusts from the head of a person affected with favus, (*Porrigo lupinosa*, or scald head.) The plant has been since known under the name of *Oidium Schenleinii*. Another parasite was subsequently

discovered in the hairs of persons affected with the disease termed *plica polonica*; also a similar one in ulcer was found by Mr. Robin.

Others have been found in Tinea, Porrigo, Pityriasis, Lichen, and Syeosis, etc., etc. Others again in the lungs and on the mucous surfaces of the body. Now the whole of these are referable to a common origin; the characters which have caused them to be raised to the rank of species being due to the plant having been *retained* in a state of immaturity. So singular is this power of being so retained, that we might almost reduce it to a formula. Giving a certain quantity of sustenance, we might predicate the form which the parasite would exhibit, and thus we find no difficulty in accounting for the great variety which is met with on the human subject alone; difference in density and chemical constitution of textures, in degrees of warmth and moisture, in greater or less facility of access to external air, will readily account for these differences in form, and will render it no matter for surprise that microscopists should have given distinct specific names to upwards of thirty plants which are in truth referable to one or two.

There remains one very peculiar variety to be mentioned. This consists of minute, square-shaped cells arranged in fours. It was discovered by Professor Goodsir, in a disease of the stomach, and was named by him *Sarcina ventriculi*. A similar one has been observed by Dr. Gardner and others, from the kidney. There is now good reason to believe that both these are merely varieties of the common fungi of which we have been speaking, Penicillium and Aspergillus, for identical growths have been found by Mr. Stephens on bones from South America; by Dr. Fox on the human subject, in a case of skin disease; and by myself in a vial containing crystals of cholesterine.

Let us now inquire into the power which fungi have of generating disease. Their influence upon plants has never been doubted: First, because their ravages are too well known, too serious, to admit of dispute; and, secondly, because their malific agency upon structures of a low organization, allows of more easy demonstration, than when highly organized and sensitive tissues are the seat of their operations, and when more various forces and conditions are to be considered.

It is no difficult matter to show that dry-rot, as it is termed, would be a comparatively slow process, were it not that the fungus is present, to insinuate itself among the fibres of the wood, to give admission to air, and to yield oxygen, which hastens the already commenced decomposition; while at the same time the living cells abstract chemical elements from the woody fibre, and fan into activity the cremacausis or slow combustion of the decaying tissue. Equally obvious is the fact, that without yeast, wort would undergo but little fermentation, and that if all vegetable organisms were excluded, no proper fermentation would result; for even in the case of wine, which is conducted without the artificial aid of yeast, I have found that it is really the source of the fermentation.

We may assume, then, as a fact, which few will deny, that a living vegetable parasite upon other vegetable cells, must excite in them a chemical action, equivalent

to fermentation, for it can not grow without so doing; and that even supposing the cells themselves were able to resist this action, the juices of the plant, not possessed of the same vital resistance, must succumb to its influence. Whether this alone be the real secret of its power, affects not the question. If the juices are decomposed the cells must suffer, and the morbific agency is at once apparent. But there is another point in which their action is not unimportant, viz, the power which fungi have of inserting themselves among the cells and tissues. Physiologists, and especially medical writers, overlook this fact, that a cell confined in a limited space, and at the same time undergoing development, must expand in some direction, and the force thus generated is almost incredible. Many of you have no doubt seen a strong wall pushed down by the growth of a tree; that this, by the expansion of soft and otherwise yielding cells. But perhaps a more impressive fact is, that simple cellular fungi, growing under large stones, have raised them from their beds to the height of some inches, even when the stones were several hundred pounds in weight; and yet so soft is the structure of the plant that it might be crushed between the finger and thumb. Here is a power not to be ignored when discussing the influence of parasites. Let us see how it applies to the production of disease in animal tissues. Each individual cell, it must be borne in mind, possesses the same motor power; it is only their combined action which yields great results such as the above. Suppose, then, a single tube inserted into the skin and impinging upon a nerve filament, would you not expect that nerve to resent the intrusion? Would it not do so if any other foreign body of the same size were introduced? How much more then, if, in addition to mere mechanical irritation, the cell proceeds to abstract or decompose the fluids. That it does this, which is indeed the essential function as a scavenger, we see in favus and ring-worm, where, especially in the former, the odor produced by it is intolerably fetid and irritating. It is clear that what with the actual pressure of the outspreading fungus, and the irritating products which it engenders, there are strong *prima facie* grounds for believing that the fungus does actually produce disease.

Then, again, if proof were wanting, observe the peculiar character of *lichen annulatus*, fairy-rings in miniature, presenting all the characters that fairy-rings do, and showing clearly enough that the fungus and rings of inflammation proceed *pari passu*.

The form of the disease will be determined by several minor conditions affecting the growth of the parasite; these we have before mentioned as warmth and moisture, suitability of food and density of tissue, all of which influence the development of the plant; thus we find in *Lichen*, one form; in *Pityriasis*, another; in *Favus*, a third, and so on; the spread of the disease being co-equal with that of the plant, and the degree of passive resistance which the tissues offer to its inroads.

It must be admitted here, as in the case of plants, that an unhealthy condition of the structures and fluids is necessary to the development of a parasite, for with-

out these it would be incapable of establishing itself. The first attack would in a healthy body be at once resented, and the intruder repelled.

I would remark before concluding, that those diseases which are probably considered as of a parasitic origin, have recently been shown by clinical observation to be identical, and capable of merging one into another by imperceptible gradations; thus establishing the fact which I had asserted from experimental inquiry and the development of the parasites.

In conclusion, a word or two as to the treatment of this class of diseases may not be out of place.

The primary consideration will at once suggest itself, that since the fungi can only attack an enfeebled system, it is essential for the cure of the disease that the general health be restored by treatment appropriate for that purpose; for we can not expect a successful result while this important cause is still in operation.

The remedies which have attained celebrity as specifics, have little claim to be considered, since, if we except arsenic, which, by-the-way, is only useful when it is pushed to a dangerous extreme, they are all of but little value.

Of the topical applications I may observe, that my own experience of them is, that they are either inefficient or dirty, or both. The one to which I trust almost solely, has this to recommend it, that it is neither.

Its action is founded on what ought to be our guiding principle in the treatment of these cases, viz., the destruction of the parasite; and this, from extended observation, I believe to be effected by the Tincture of Iodine, far better than by any mineral or other agent we can employ; at the same time its application is unattended by any inconvenience.

It is simply an alcoholic solution of Iodine, thus: Take of Iodine, 1 drachm; Iodide of Potassium, half a drachm; Alcohol, one ounce; solve. Paint the diseased part every day or on alternate days; omitting it for a day or two if the skin becomes sore, then resume it, and continue the application until the disease has disappeared.

As yet I have met with no case which has resisted steady treatment of this kind, neither do I believe that I am likely to do so.

[The above is a subject little understood, but of profound interest, and is ably treated, though we can not say that we agree with all the author's conclusions. The paper was read before the Botanical Society of Canada, from whose proceedings we copy it.—ED.]

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## CULTURE OF THE APPLE IN POTS.

(Translated from the German of Diel.)

I MUST naturally suppose that persons ignorant of the art of fruit culture may wish to raise fruit trees in pots, and for such many an explanation is necessary, which those skilled in the art will excuse. The operations of grafting, though, I will omit, as they may be found described in any book treating of fruit culture. The peculiar requirements of raising fruit trees in pots is our only aim. Each kind of fruit of the two botanical classes *Pyrus* and *Prunus*, (*kernel* and *stone fruit*,) or the three\* pomological classes, after the system of nature, as apples, pears, and stone fruit, requires for its pure propagation through grafting, certain so-called stocks, peculiar to it, if it is to thrive well, and bear fruit of its own natural quality. Pomologists of the oldest times undertook, indeed, many experiments to elevate nature over itself, or, rather, to disturb its course and produce monsters. These experiments exhibit the childishness of their pomology, which, with the true knowledge of nature, lay yet in its cradle. They would produce stone fruit without stones, fruit impregnated with foreign species! They grafted peaches on willows to have them of the melon size. No extraneous grafting has, as is just, remained to us, but pear on quince; the hawthorn, (*Crataegus oxyacantha*) has long ago been dismissed. For apples, then, nature gives us two kinds of stocks, namely, the wild apple tree, (*Malus sylvestris*.) and the wild apple shrub, (*Malus pumila*.) For culture in pots, only the latter can be used, if we expect yearly fruitfulness and durability of our trees. This wild apple shrub has, from the time of maturing its fruit, received the name of "Pomme de St. Jean," (John Apple,) in France. Paradise apple (*Pomme de Paradis*) piety may have named it because it has four seed chambers. This shrub will scarcely ever grow over three inches thick, and eight to ten feet high, and bears small, insipid apples. It is of very slow growth as a tree, like all the shrubs, but, like these, it also throws up suckers from two to four feet high in one year, and it has, likewise, only creeping roots, but no tap root, which is necessary only for trees proper. But as in this peculiar kind of root lays the reason of its slow shrubby growth, so does it constitute its great usefulness for fruitful dwarf trees. The propagation of the paradise apple is, like that of most other shrubs, from suckers. These it often throws up, even when grafted in large numbers; not, like the plum tree, from its distant feeding roots, but mostly from the neck of the root; sometimes, also, from the stronger roots near it. By these suckers we can propagate it abundantly for our nurseries, and they have the peculiarity, by which they are specifically distinct from suckers of seedlings, that even the smallest, scarcely of the size of a crow quill, immediately pushes forth its own roots, so that they, also, do little harm to the parent tree.

\* Why the author, dividing the class *pyrus* into the two pomological classes of apples and pears, does not also divide the class *prunus* into plums, peaches, apricots, and cherries, is an enigma to the translator.

To raise paradise apples stocks from cuttings, as some propose, I will advise no one to try, for I must say that I have not yet succeeded in raising a single one in this manner. Even if such cuttings seemed to thrive the first season, they invariably died the second. The stump in the ground never had a root, but cankerous all over. The way in which roots form on the *French* paradise apple is quite peculiar to it; namely, on the neck of the root form first small, but often a half inch wide, oval or round protuberances, which have much similarity to roots. From these grow out numerous small, beard-like swellings, which all elongate into fine feeding roots, not unlike a beard. If such a tree is placed near a moist, shady wall, these beard roots will even shoot out in the open air towards the wall, and take hold in its crevices. So, also, these roots are often seen creeping on the surface of the ground, which should be well remembered in digging, especially when suckers are desired.

These mere fibrous or feeding roots are the cause why trees grafted on such stocks make no rampant growth, and, therefore, by the slower air cultivation of the sap, soon form numerous shoots, (*Lambourdes*) and fruits spurs, (*Brindilles*), which, through the manner of their growth and position, are protected against the vertical impulse of the sap in so far that the checked circulation of the latter permits the formation of innumerable annular swellings, (*Bourrelets*)\* which are inexhaustible in fruitfulness.

It should not be supposed, though, for this reason the whole tree grows too slow. The leaders for the enlargement of the tree have, nevertheless, a lively growth, and often make summer shoots of from one to four feet long. Of this wild apple shrub we have two varieties, perhaps, and probably even three. The first is the paradise apple proper, which I call the French, and which is generally disseminated, and well-known to every gardener. To this variety, apples particularly the characteristic just given, especially in regard to the oval protuberances. This variety is the smallest, has the most beard roots, (*chevelure*) and the leaves are of a dark green, glossy, deeply indented, small, and lancet-shaped.

In Holland the second variety is found. The roots of this are stronger, the bark of older trees resembling that of the hawthorn, and the roots, although also growing in bundles, are less abundant, and do not spring from those warts, which even in the open air run out into roots. The leaves are of a light green, are softer to the touch, and of an oval shape, pointed at the end, deeply indented with an undulating edge, (*folia undulata*.)

\* These annular swellings are one of the most remarkable contrivances of nature in the vegetation of fruit-bearing trees. They are intended as dams against the impetuous flow of the sap. Every twig of a tree, which is preparing to bear fruit, has its own economy, for the elaboration of the sap for its own end, and to prepare it for the fruit. The sap flows slower through the swellings, which are in reality the natural product of the scales of the leaf and fruit buds. The former have only a few, the latter many more scales; therefore the more or less visible annular swellings. I will here remark, that when dwarf trees are pruned so closely, that these swellings disappear and grow out into leaders, then the pruning is faulty. In this consists the unwise summer pruning, where no resisting annular swellings have formed yet.

The annual summer shoots of this are of yellowish green, of the former variety of a reddish brown. Suckers are as abundant with the Dutch as with the French variety.

In France this Dutch variety is called Doucain;\* also Doucain and Fichet. They are used principally for half-standards.† For in rich ground this variety grows nearly as rampant as the strongest seedling; with the difference, though, that they very early become fruitful. Fifteen apple trees grafted on Doucain, which I received from Harlem, all bore the third year. This is the Doucain, which the English botanist and scholar Miller does so much justice in saying that less than twenty feet distance on a trellis will not do for it.

The third variety seems to be the "Hedge apple" of several German authors; but as I have seen none of them, I can say nothing about it. Von Munchhausen thinks it is identical with the Doucain, but this is not probable.

In the French paradise apple we have an incomparable subject for apple trees in pots. Its roots, not rampant and wild, being all fibrous or feeding roots, may be checked in any degree; for after the laws of nature, a curbed power of root causes early fruitfulness and shortened life; while, on the contrary, a wild, rampant growth insures longevity and late fruitfulness. For this reason, all trees planted on the side of a mountain, or in good but shallow soil resting on rock, become fruitful very early.

If, now, paradise apple stocks are to be prepared for pot-trees according to the rules of art, the principal rule for them, as well as for all other kinds of stocks for all other kinds of fruit, is: *To induce a large number of fine feeding roots to spring from a short piece of the main root or neck.* As the length of the main root can never be more than three or four inches for a pot eight or nine inches in depth, it happens often, that the stocks have but few roots on this length, which must, therefore, be produced by art, namely, by transplanting; for the more feeding roots we have on the short piece of main root, the more pleasure shall we derive from the merry growth of our trees.‡

Young stocks or suckers, not over half an inch thick, smooth and free from any hard crust, must, therefore, be chosen. Of these the main root is cut back to two or three inches; the small roots remaining over the cut are also cut back to one inch or one inch and a half; and now, when the top has also been cut back, the tree is planted in the nursery, one inch deeper than it stood before, to prevent it suffering from drought in the summer. In planting care must be taken that these fine roots are well spread horizontally, for, otherwise, these fine beard-roots are apt

\* See Du Hamel, *Pomona Gallica*, vol. ii., p. 45.

† See *Nouvelle maison rustique*, vol. ii., p. 149. Paris, 1721, (a work of two large quarto volumes.)

‡ For dwarf trees in the garden, or trellis, or as pyramids, the contrary holds good. Here it is necessary to have a forest of feeding roots to sustain the larger tree. For trellis, at least one foot of main root is required, and for pyramids, where the graft must absolutely come in the ground, if they shall be able to resist the winds, 18 inches are not too much.

to cling to the main root, which often causes their decay. Crippled stocks with injured bark never succeed.

When such a little tree has stood one summer in the nursery, and grown well, and it had already good roots when it was planted there, it may be budded the same summer or grafted the next spring. But if it had no fine roots when it was planted, it must be taken up and replanted next spring, when the new roots are also cut back again. In this case, a tree is to be expected that will have, as it were, a forest of feeding roots, and with them the properties necessary to make it a perfect pot-tree; for each cut root will throw out numerous smaller ones.

But often this replanting is not necessary, and many paradise suckers are found which have sufficient roots for our purpose.

If, however, our conjecture in this respect has proved erroneous, and the trees already grafted, are found to have too few roots in taking up, they must be replanted in the nursery, according to the above rules for stocks. In this case we not only save a year, but, for obvious reasons, the tree will sooner become fruitful. I transplant my trees intended for pots, every spring, in March, by which means they soon set many fruit buds; but of this in the chapter of vegetation.

*But never must an amateur, who expects undisturbed pleasure for many years from his pot-trees, plant Paradise stocks, much less any other kind of stocks, in pots, to be grafted in them.* Instead of gaining hereby, there is much loss; for, not calculating that the tree, grafted the same year, does not thrive so well, often very poorly, it exhausts the soil in the pot at least three years too soon, unnecessarily and without any compensation. The pot becomes too soon cramped with roots; and when, in the third or fourth year, the tree has formed a crown and fruit buds, it also often begins already to lose in vigor. It must, therefore, be transplanted, and, at least for one year, all pleasure and enjoyment are lost. But if the tree has first been two years in the nursery, and been carefully transplanted there every spring, I get a tree with a crown full of fruit buds, which will yield the finest fruit for five or six years.

It is, therefore, a general rule to plant the stocks first in the nursery, to graft or bud them there, and then to leave them for two years, either undisturbed or transplanted every spring, for the development of their roots and crowns. The first year's growth of the graft is to be properly pruned back the next spring, by which we obtain in the second summer the proper branches for a crown, which we obtain neither so numerous nor strong in a pot. In the fall the tree may be potted, but better not till next spring, because we then save several months of trouble. But never must a tree that has been potted in the fall, nor any other newly planted fruit tree, be pruned at that season. The slow circulation of the sap is better sustained by the branches, and one runs no risk of losing just that bud by frost, which by the next season's growth was destined to form a new branch.

After the second season's growth in the nursery, the little tree is generally well

developed, and after potting often bears fruit the same year, though oftener only blossoms, which fall off again, because the tree is not yet well rooted in the pot.

This was the general rule. But the case is widely different with the student, with whom pot culture is not the end, but the means. If he, solely for the study of varieties, wants to experiment with a new or unknown variety; if it is enough to see the fruit once or twice, and observe the manner of vegetation of the tree, to enable him to form a judgment and make comparisons, then two years saved are important. In this case the grafted trees may be potted the first year, or some Paradise stocks may be potted yearly in advance, to be grafted in the pot. Nay, if this has been done in the fall, they may be grafted the following spring, or even grafted and potted at the same time. In this case the regular shape of the tree, which can only be obtained in the nursery, is of no consequence; but instead it may be tried to develop the future fruit buds even the first season, by pinching in the young summer shoots.

He who has observed and meditated on the advantages and disadvantages of the vine fretter or vine pricker, (*Curculiones longinoster*, long-billed snout bugs,) will easily understand this artifice. These are mostly busy before July. After they have pricked off a vine, the next bud generally pushes out in a week, and forms a summer shoot. But not seldom, and with stone fruit and pears nearly always, not only the next, but several buds come into activity, which otherwise would have pushed only next year, or perhaps never.

If, now, a summer shoot of a healthy growing tree is pinched in before July, at about that bud where it would have had to be pruned next spring, we obtain fruit spurs one year earlier, which often blossom and bear fruit the next year.

In regard to grafting, I will only add, that this may be done as high up as where the crown is to form, and the best height for this is from 10 to 12 inches. For dwarf trees for the garden, on the contrary, the paradise stock must be grafted very near the ground.

If the paradise stock has been potted only the preceding fall, or only in the spring when it is grafted, the graft only makes one or two weak shoots. But if it has grown in the pot for one year previous to grafting, a bud will make a strong shoot, and a graft two or three. These shoots are permitted to grow till the middle of June, when they are pinched in one half. They will now make enough side shoots to form a crown the same year, and apples and pears will even often make fruit buds.

*Summer pinching* is for dwarf trees as important as pruning in spring, and is based on the same principles. Its purpose is to give trees the proper shape; to render the pruning easier; and to strengthen the necessary shoots.

[At this time, when the culture of fruit trees in pots is taking its place as a specialty, the above remarks from Diel will be read with much interest. Though written more than seventy years ago, they still have a degree of freshness, and

agree mainly with the best practice of the present day. That some progress should have been made in this long interval was to have been expected. As we expect to give further extracts, our remarks may as well be reserved for the end.—Ed.]

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INTERIOR VIEWS. No. 2.—EXOTIC GRAPERIES.

BY FOX MEADOW.

How beautiful is the external! Art and wealth combined have produced a most lovely effect upon the lawn, or in some cozy part of the grounds where it pleases the taste of the proprietor. This little beautiful fruit structure is a very graceful ornament, and all visitors admire it; indeed, they are fascinated, and led to exclaim in the moment, "What is that beautiful glass structure for?" "For the growth of grapes," is the reply. At this moment curiosity knows no bounds, and away rush our visitors to see the beautiful grapes. But what is the spectacle inside this charming house? the eyes are strained in looking for grapes; but, alas! none or few are to be found. The only prominent feature the visitor becomes cognizant of is the fumes of sulphur, or some other "special antidote," which would seem to be an ever necessary concomitant to the inside of beautiful graperies. What a wonderful contrast between the *exterior* and *interior* of some of the costly graperies! We have seen many this season where the name "culture" is a disgrace to horticulture. A grapery, when once planted, would seem to have an act of Congress reigning over it: thus plant; thus shalt thou ever remain! I do not recollect whether our forefathers embodied a clause in the Constitution bearing on this point; but if such should prove to be the case, can it not be broken? Suppose we "secede" from such a "very tyrannical" form of things, and set up for ourselves, shall we be let alone? You will guarantee our safety, Mr. Editor, so we will proceed.

That failures in grape-growing exist to a greater or less extent, none will deny. Now what are the causes? This part of the question we propose to examine a little in detail, and as briefly as the nature of the subject will admit.

The causes of failure in grape-growing are presented to our mind thus: the wrong in border-making; the wrong in planting debilitated vines; and, lastly, a little wrong arising from inexperience. If I should tell the readers of this journal that ninety vine-borders out of every hundred of those of present date do not contain ten per cent of the vine's *feeding-roots*, they would, no doubt, feel surprised. This, however, is my opinion. A good rich border—good rich loam—plenty of rotten dung—bones, and a great many other things, constitute the border of a great majority of our best practical gardeners in Europe as well as here. My experience in this vine-border making is, that *the richer the border is made, the*

quicker the roots run out of it—the quicker such a border becomes useless to the plant. The roots of grape-vines, when growing in any good ordinary soil, are not small and fibrous, but long, resembling so many whips—feeding from their very ends principally; and, consequently, when young vines are first planted, their roots extend in direct lines as rapidly as possible, *because the elements necessary to the plant's growth are found in every particle of soil the absorbing spongiole touches*; and hence, these roots drive on in direct lines, and never turn to the right or left until the gross elements they were previously feeding on, cease to be. Now it will be evident to any intelligent person, that as soon as the stimulants cease to surround the spongiole in its onward driving movement—the instant the food is not to be found at the root's mouth, another action of the root ensues, which is this: the sudden bursting forth in all directions from that long, straight root, of an innumerable host of foragers; like soldiers in an army, when food is not to be found in one direction, they divide off into all parts of the country, which results in the end in the collection of vast supplies. Now, it will be easily seen why our fine rich borders do not contain the feeding-roots of the vines, and why it is that such numbers of vine-roots are always found in poor, miserable soils, *outside* of the rich borders. There is no way but one of keeping the roots in such rich-made borders, and that is to wall up in cement, and concrete the bottom. This, however, is a useless expense.

Look, for instance, at the loads of rotten manure placed annually on many vine-borders, and no perceptible difference seen in the crops of fruit, neither in the foliage nor wood. The feeding-roots are outside the border, and this gorging with rotten dung is constantly being applied to the conducts—mere conducting water-pipes, that can not be influenced one way or another by its application. All the fine expensive drainage to such borders are just as useless as are the rich materials of which they are composed, and the only direct influence such borders have ever had on the vines planted in them, would be, perhaps, for the first and second season, inducing coarse, heavy, long-jointed wood, to be miserably half-ripened in the fall of the year, bursting forth the next spring into puny insignificance. It is true that where the soils outside of the borders are moderately fertile, the roots extend in direct lines, as when first coming through the border, and thus for years maintain a good healthy growth, which, I have no doubt, causes many to suppose that their borders are of the No. 1 class; but a tracing of the roots would soon reveal the true secret of affairs. This action of the root we have just illustrated is dependent *solely* on the *quality* of the plant when first planted. If the young plant is strong, having large, long, and strong self-supporting roots, their action in the rich border will be just as we have described; but if the plants, when first planted, are poor, miserable things, called two and three years old, being grown, or rather kept *dying*, for that period, in four and five-inch pots, whoever gets them, they are to all practical purposes *rootless*. Now the action of the roots of this class of vines in borders of the order named, is just the

reverse of the former. It should be remembered that vines having poor, half-dead roots when planted, never resuscitate; they remain for years in almost the same condition, but die ultimately. Plants of this class, if planted very early in the spring, remain in *statu quo* till June or July before showing much symptoms of growth, and then weakly; but as the weather increases in heat, the plants increase in strength, until they make what appear to be strong vines by November. Such vines, let their apparent strength be what it may, are worthless as good fruit-producing vines. And why? Because such plants are no better than rootless cuttings. The roots they possess do not contain a sufficient amount of organized matter to sustain and push strongly the bud intended to form the cane or young rod; and consequently, after the bud has pushed forth, and exhausted the organized fluid in the woody portion of the plant, such roots can not supply further resources, and the plant remains in the same state, until, like a cutting, it pushes new roots out of the wood at the base or the collar of the plant. The new roots, as they issue forth, become very strong, but *invariably* they go direct to the bottom of the border. They are, in fact, so many tap-roots. They grow downwards just as do Parsnips and Carrots, nor do or will they stop in the descent, if the border be open and porous, no matter how deep, until they strike the hard bottom; then they turn and run along the bottom. Now of what use to such roots are all the costly materials of the border? The greater the amount of rotten dung such borders contain, the greasier they are, the more impervious they are to air, and, consequently, the quicker is disease in its various forms brought on in the plant. Roots can no more live without the influence of the atmosphere than can leaves; consequently, how can we expect good results out of such deplorable conditions? From this action of the root arising from, and dependent on the quality of two classes of plants used, we would ask, What per cent. of the rich, gorging materials that borders are composed of is absorbed by the vines said to be growing in them? Is there a fair compensation for all the "old sod," rotten dung, guano, lime, bone, superphosphates, special fertilizers, and perhaps dead horses? Would there not be more realized from ordinary ground by growing common vegetables than is realized from many of our fine grapery borders, in proportion to capital invested? From these remarks our readers will, we hope, be led to see where *two* of the great wrongs exist in the culture of the exotic grape under glass; which is in one instance owing to the roots being directly at the *bottom* of the border and *under* the compost which they should be in, up, and working through; and in the other case having grown directly *through* the border and to the outside; and that owing to such results in both cases, the expensive food prepared and placed for the plants is not consumed by them. Having hinted at the wrongs and the causes which produce them, we shall next hint at the remedies.—(*To be continued.*)

[Fox Meadow has here opened a very interesting and suggestive aspect of the

grape question, and we shall wait impatiently for its conclusion. In the mean time, we hope his professional brethren will study it attentively, and send us any conclusions it may suggest. Fox Meadow is evidently minded that neither himself nor grape-growing shall stand still; he is manifestly of opinion that all the mysteries of grape culture have not yet been mastered. To us, such manifestations on the part of old and experienced gardeners, augurs well for the progress of the science of horticulture. Who would lag behind when every thing is progressing? If in any matter, however small, we have been wasting our capital and labor, let us find it out as soon as may be.—ED.]

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## THE CIRCULAR CURVE.

BY JAMES HOGG, YORKVILLE, N. Y.

I ACCEPT with pleasure your kind invitation to put in writing the verbal criticisms which I made in conversation with you, upon Mr. Woodward's articles upon curved lines.

On page 158 (April Number) Mr. Woodward says: "We do say that compound *circular* curves are practically identical with any curve that can possibly be made use of in any department of landscape adornment, and that there is no curve known, or gracefully flowing line, but what is rigidly mathematical;" and at page 299 (July Number) he says, "It (the circular curve) can be made to pass through any point, adapt itself to any form of surface, and admits of the safe passage of heavy and rapid moving bodies, and for graceful flow and elegance is quite as near perfection as can be attained. To any one who has made a practical examination of curved lines of road laid out by the eye, and compared them with those actually laid out as portions of *circular arcs*, there can be no question as to the superior elegance of the latter; the difference is so plain, the grace and beauty of flow so decided, that a doubt is not admissible."

Now I take issue with Mr. Woodward in this, and shall attempt to prove that the circular curve is not the curve of "graceful flow and elegance," and that in landscape garden practice it is not adapted for the "passage of heavy and rapid moving bodies." I assert that its elements can not be used as elements in laying out other curves, because they are diverse from them, and governed by altogether different causes and principles. That in laying out other curves, such as the ellipse, the parabola, the cycloid, the catenary, the epicycloid, the hyperbola, etc., in the manner indicated in Mr. Woodward's articles, he is only working by the rule of compensation of errors, which, while they neutralize each other, do not develop the truth.

This is not the place for positive mathematical demonstration of my assertion,

as at present we have to do with the circular curve more as a matter of aesthetics than of mathematics; but let me observe that the circle is not, as Mr. Woodward appears to consider it, the elementary principle of the cone, which is a combination of the triangle with the circle, but that it is rather the elementary principle of the sphere, the circumferential line of any section of which is always a circle, and can be no other figure. The sphere in physics conveys or suggests the ideas of perfection, ponderosity, and quiescence, because it appears as a complete, finished body which will make no further progress in development, and appears as being unacted upon by extraneous counteracting forces. The moment it is acted upon by forces sufficient to overcome the mechanical cohesion of the materials of which it may be composed, it immediately assumes other curved forms, the spheroid and its varieties, the parabola, the cone, the cylinder, the hyperbola, etc., etc., as the case may be: the elements of these curved forms being those of matter in motion, and not at rest; and these elements being produced and governed by laws and principles as diverse from each other as rest and motion are.

The circle being an essential, elementary portion of the sphere, it partakes in its due proportion of the characteristics of the sphere; it incloses the largest space within the smallest circumferential line, and so far is perfect; it is without beginning or end, and so far is complete; and it suggests neither progress nor motion, as, on account of its perfect form, it indicates either having overcome all forces producing motion, or incapacity of being acted upon by such forces; in either case suggesting a state of quiescence.

Now in laying out walks and roads we have to do with bodies in motion, and not at rest, and in order to avoid incongruities and discord of form, we must adopt lines which are produced by, or are in accordance with, the laws of motion or progress; and not with those in accordance with matter in a quiescent state.

As an inclosing line for flower-beds, fountains, statues, monuments, and similar purposes, the circle and its combinations are most beautiful and satisfactory; but for roads or walks it is of all others the most disagreeable and unsatisfactory to a cultivated eye. To reverse two semicircles, joining them at the tangential point, is to dislocate or destroy that which in its proper place is perfect, and so produces an unpleasant emotion in the mind: the very thing to be avoided in all artistic landscape scenes.

Engineers may generally use the circular curve in their operations with tolerable satisfaction, as their works are ordinarily of such a character and on such a large scale that the eye does not generally take in the whole of the curve at once; besides this, the long perspective destroys the bad effect of the curve. But in cases where the eye takes in the whole of the circular curve at once, or the mind instantly comprehends it, the effect is unpleasant.

I can not call to mind any instance in nature of a perfect sphere or circle. The rotation of the earth upon its axis causes it to assume the form of an oblate

spheroid, and every thing upon it partakes of forms either original, in combination, or in modification more or less produced or governed by forces causing motion. Not only so, but none of the orbits of the heavenly bodies, or any of their lines of motion, are in the nature of circular curves—they are all curves of motion.

I do not recollect of any painting or piece of sculpture of acknowledged beauty where the circular curve is introduced; and as a fixed matter of taste, the more flowing and delicate the curved lines in a picture or work of art, the more it is esteemed and admired. I think you will admit that the lines in the Laocoön, the Venus de Medicis, the Apollo Belvidere, the Antinous, Niobe and her Children, the Dying Gladiator, and other world-renowned statues, are full of grace and beauty, and yet not one of the lines entering into their composition is a circular curve, nor would any artist ever attempt to lay out their lines by or with a pair of compasses. The ancients well knew the comparative value of flowing curves, (or curves of motion,) and of circular curves; they used the former in their highest and most spiritual works of art, and the latter in their lower works, as in statues of Silenus, Hercules, Bacchus, etc., where, in the roundness of the head, the belly, the calves of the legs, etc., a low degree of intellect, and a certain amount of grossness are admirably indicated, and which it would have been utterly impossible to have indicated by the other class of curves.

I do not think Mr. Woodward himself would endeavor to lay out a pure Ionic volute, or a beautiful winding stairway, by any such application of circular curves as he recommends to garden artists. That curved lines of every class are strictly mathematical, or may be resolved into strictly mathematical lines, I do not dispute: no line, from a dot upwards, nor combination of lines, exist, but may be analyzed and reduced to their proper mathematical elements and value.

I will give you a few practical illustrations of the effects of the two classes of curves, which will strike the most inexperienced eye. Compare the full-breasted Dutch galliot with semicircular bows, or the old-fashioned, tea-kettle-bottom ships, with the clipper ship of the present day, with her flowing curved lines; the one built for carrying, the other for fast sailing. The one class certainly inclosed the greatest quantity with the smallest circumference; the other class competes with the winds in swiftness. Which is, artistically speaking, the most beautiful in outline? can there be a doubt as to the perfection in beauty of its kind, of the clipper ship? but are her lines not those which study and experience have taught us are the lines produced by a body passing swiftly through the water?

You can not go five hundred feet on the Central Park without meeting with notable instances of the incongruities and deformities produced by the adoption of the system of circular curves. The Park has been managed and laid out by lawyers, brokers, merchants, farmers, engineers, architects, and literati. From its counsels and direction, in any shape or form, all artistic or horticultural skill has been studiously, constantly, and continuously ignored; and not at present to

refer to the results in other matters than those of the lines of the roads, there is not a consecutive hundred yards of curved walk or road on which either the pedestrian or the vehicles follow the lines of the roads as laid down. It is a very interesting and instructive study for the landscape artist to note and contrast the natural and therefore beautiful lines formed by the vehicles or pedestrians on the roads, with the lines of the roads themselves; so in opposition are they, that even the water-cart horses have to be forcibly compelled to deviate from the natural and therefore true line, in order to regularly sprinkle the roads.

In concluding, I would again call attention to the fact that the circular curve does not exist in nature or among the celestial bodies, as far as we have cognizance of them; that it has never been used by artists of true genius or taste for the production of lines expressive of sublimity, of purity, or of beauty; that its elements being those of a quiescent body, are not, and can not be made properly serviceable in deducing the lines of bodies in motion; and that such lines can not be truthfully laid down by any system or combination of circular curves; that the true lines or curves of beauty are those composed of the various curves of motion harmoniously combined and laid out by their own proper elements, and so brought into accord with those natural surroundings which nature furnishes us for the adornment of rural scenes. The moment we introduce other forms we make discord and produce incongruities. He succeeds best who brightly illuminates his work by the lamps of Truth, Power, and Beauty; if the first is at all dimmed, the others will be more than correspondingly darkened.

The art or science of engineering is a noble one, but when it steps from its own proper sphere into that of art, insisting upon the adoption of its formula and theorems exclusively, it becomes empiricism. Its rules and practices should be subordinate to aesthetics, and should be adopted only in so far as they assist in aiding and carrying out the designs and requirements of artistic taste; beyond this, they are, in such matters, not to be recognized.

The practical and material modes of thought of our day, and the great achievements of engineers in the legitimate line of their profession, have rather led the public mind astray, and made it to ignore the proper claims of the artist. Not all the knowledge of engineering science in the world would ever make an artist; he may be compelled to study engineering to enable him to carry into effect his thoughts and ideas, but there is nothing in engineering to suggest the beautiful; it has to deal with immutability, (so to speak,) compulsion, the intractable; it overcomes, but does not create; the true artist creates and overcomes. Many of the old painters were architects and engineers, but that did not impel them to produce those sublime works which challenge the admiration of the world; others had equal, perhaps better scientific knowledge, but they have left no such monuments behind them.

[Learning, in conversation with Mr. Hogg, that he entertained views, in regard

to the circular curve, quite at variance with those expressed by Mr. Woodward, we requested him, in a note, to put them on paper, and he has done so, for which he has our thanks. Mr. Woodward will respond in our next number. We believe the discussion of this subject will prove highly interesting and instructive to a large class of readers. It remains to be seen whether these gentlemen will leave us any room for remarks.—ED.]

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## THE ROLLING PRAIRIES OF THE WEST.

BY COGNOSCO.

It is the universal impression among western men that all writers have utterly failed in describing a prairie; at least, it is a rare thing to find one who has never seen a prairie whose conception of it is any thing like truthful.

The prairie lands of the West form a very large and important feature in the inducements to a new settler, their immediate cultivation giving him a start unattainable by long years of labor and deprivation in a heavily timbered country. The facility with which the prairies can be subdued, the abundant returns they yield, and their surpassing beauty and attractiveness, have enabled the States of the West to attain in twenty years a condition that has required a century in the older States. While a life-time is required in the East to cut down forests, remove stumps and rocks, and bring a farm into handsome shape, it is no uncommon thing at the West to find, in a single decade of years, that an energetic man has made and sold a half dozen farms. Possessed with that unexplainable fascination always connected with frontier life, we find pushing on westward, men who have made farms in Ohio, Indiana, Illinois, Wisconsin, Minnesota, and Iowa, still westward bound with a keen eye for a mill-power, a town site, or a country seat, which they readily dispose of to the next wave of emigration.

The rolling prairies of Wisconsin, Northern Iowa, and Minnesota, are very similar in character, and, strange as it may seem to an eastern man, occupy some of the most elevated portions of these States, and are destitute of that tall grass out of which novel writers have woven such frightful stories in their description of prairie fires.

The character of the prairies in the three States named, is chiefly undulating or rolling, although, in some of the western counties of Northern Iowa, there are long stretches of comparatively flat or level prairie lands. This rolling tendency is not on a horizontal line, but gradually ascending to a high elevation, and then gradually descending. Thus Koshkonong Prairie, in Dane County, Wisconsin, attains an elevation of between 500 and 600 feet above Lake Michigan, and the views from it, over valleys and timber, highly cultivated farms and flourishing

villages, is of the most extended character. On Rock Prairie, lying in the always charming valley of the Rock River, are some elevated portions of prairie land that command the most enlivening vistas of busy western life. The flourishing city of Janesville, the long lines of railroad, and the vast fields of waving grain, excite emotions of surprise among all who see them for the first time. The prairie at Monroe, west of Janesville, attains a height of 500 feet above Lake Michigan, and from thence running northward, the prairie rises until it almost reaches the summit of the Blue Mounds, upwards of 1,000 feet above the lake. From this point the view is magnificent. Some 40 or 50 miles distant, over the rolling prairie, interspersed with oak openings and bodies of timber, are seen the dim outlines of the Platte Mounds, up whose sides climbs the swelling prairie; and from thence still onward looms into view the Sinsinawa Mound, the last prairie land-mark east of the Mississippi. Crossing the great river, fifteen to twenty miles, and we are again on the beautiful prairie, now 600 feet above the river, its undulatious rising and falling like a heavy swell on the ocean; now dipping into the wooded valley of a stream, then rising to the summit, then again descending, it rolls on westward, gradually rising, until, in Cerro Gordo County, 130 miles west of the Mississippi, the elevation is upwards of 700 feet above the river. There are seldom any abrupt breaks in a rolling prairie, except as it approaches the valley of a stream, or rock or gravel crops out. The swells are usually rounded, and grassy slopes and dimples flow gently together.

The prairie soil, as a general thing, is dry, and exceedingly rich and fertile, easily cultivated, and admits of the use of all the improved agricultural machinery. Plowing is done with a fraction of the labor required among the stumps and stones of an eastern farm. Although it is usual at the West to speak of the prairie in its native condition as wild land, it is in that form more easily cultivated than improved land at the East, and, except in the matter of buildings and fences, a farm can be made with less labor and less money than one can manure and cultivate what are called handsome farms at the East; in fact, such wild land, of almost inexhaustible fertility, can be purchased within less than ten miles of a railroad depot, for about the same price per acre as it costs to manure land at the East; say from \$800 to \$1,000 for a quarter section of 160 acres.

A rolling prairie is seldom very extensive. It may have great length, but not width. Groves of timber are almost always to be seen, and one does not often get "out of sight of land," as on the more level prairies. Rolling prairies are usually well watered. We have seen in the course of a day's ride innumerable ice-cold springs. Fountain Prairie, in Columbia County, Wisconsin, is so called from the number of springs and spring brooks that are found on it; and at Waukon, the county seat of Allamakee County, Iowa, which is located on one of the most beautiful of all prairies, some 600 feet above the level of the Mississippi, are perhaps a dozen or more handsome springs, gushing up in the streets,

and in different parts of the village. Union Prairie, Washington Prairie, and many others we might name in that vicinity, are remarkably well watered, as well as unequaled in that indescribable beauty belonging only to rolling prairie land.

But we must make another article on this subject; it is too vast to be disposed of in a hurry. The Prairies are destined to form a very important feature in our Agricultural and Horticultural wealth, and, in spite of all the misrepresentations about the hardships and privations of Western life, will become the most thickly settled and wealthy portion of our land.

[Whatever misconceptions may have been produced by the highly wrought descriptions of novel writers, the readers of the *HORTICULTURIST* at least will now have a just idea of the magnificent prairies of the West. That many false notions exist in the minds of those who have never seen a prairie, can not be doubted; and it is equally not to be doubted that these notions have been legitimately drawn from the sources alluded to above. Cognosco has toiled over them time and again on foot in the pursuit of his profession, and has thus acquired a minute knowledge of their formation and general appearance which no mere passing traveler could hope to attain. We shall look for a continuation of the subject with much interest.—ED.]

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## GRAPE RAISING ABROAD.

BY PROFESSOR SMITH, NEW YORK.

It is self-evident to one familiar with the grape-growing regions of the old countries of Europe and Asia, that certain parts of the United States are destined, in the progress of civilization, to become eminently distinguished for this peculiar department of industry.

Notwithstanding the comparative small amount of wine manufactured in this country, at present, and considering we are a young people, the amount is beginning to attract a marked attention. If Mr. Longworth has been successful, many thousands might be equally so, and upon the principle that straws indicate the course of the wind, the wine-making of Ohio, and a small domain under culture in Missouri, show what may be accomplished, ultimately, over a vast extent of hill and dale.

Parts of the United States are destined, as agricultural knowledge is diffused, to become great wine-making sections. This is assumed to be entirely susceptible of demonstration; but it is not worth while to discuss that point, beyond declaring at the outset, nature has nowhere given stronger indications of a soil admirably adapted to vineyards, if the varieties of native grapes growing spontaneously from

the forty-fifth degree of north latitude, to the Gulf of Mexico, in one direction, and from the Arctic border to the Pacific Ocean in the other, are to be regarded as the testimony of nature herself.

But my first object is to describe the method of grape-growing in the oldest country in the world; first, because it was where man was first engaged in the peaceful labors of horticulture, and his eminent civilization is traced to the commencement of hand-craft in a garden under the special direction of his Creator.

The writer of this paper has traversed the far-off land of ancient Syria; examined with the curiosity of a traveler, its geographical features and its unrivalled agricultural capacity, and, therefore, deals with facts and not with speculations. As the particular object of this communication is to treat of the grape, other and certainly interesting topics that could not fail of being of practical utility to our own industrious countrymen, must necessarily be passed over, for the present at least.

In the book of Genesis, the minute account of the size of the Eschol clusters, which the spies brought into the Jewish camp, slung on a pole between two carriers, furnished a clew to the condition and development of that excellent fruit, in the Land of Promise, at a remote period in the history of humanity.

One hardly dares to assert that the vine is equally prolific and gigantic there to-day. Such, indeed, is the fact, where the smallest amount of care is given to its protection, and any reasonable amount of encouragement is bestowed on the vines.

Unlike the grape culture of Italy, by festooning the vines from tree to tree, at intervals of a rod or two, or the German mode, of raising the shooting shaft up the side of a pole, like string beans, in the Holy Land the roots are set out in a rocky, but rich valley, generally tolerably secure from raging winds. After the vine begins to run over the ground, the roots being from four, six, and sometimes nine rods apart, the centre or first leading vine is cut off, almost level with the ground. The lateral limbs are then permitted to strike off from the common centre, in all directions, resembling the spokes of a wheel, radiating at all points of the compass. Those are permitted to creep off almost indefinitely, so that the surface is occasionally seen quite covered by an interlacing net-work of vines, as complex as a melon bed. On the hard ground, basking on bits of rough limestone, the berries lie securely, undisturbed by sudden blasts of the storm; swelling and ripening beyond any examples here or in Europe, even under the best auspices of the gardener.

Here is a point that is deemed of transcendent importance in reference to vineyard planting at the West. Missouri, an immense tract of prairie in eastern and western Kansas, and very choice sections of Nebraska, are yet to be the great wine-making regions of North America, on this side of the Rocky Mountains. The prairies are not understood even by western farmers. Valuable as are their crops, when the vine is systematically planted on them, as they will be, one single acre will yield a far greater return in a single season, than ten ever did in wheat, corn, or other familiar products.

The Syrian method places the cluster beyond the contingency of sweeping winds, the first obstacle to contend against in raising vines on poles, Rhine fashion, or giving them the look of clothes-lines, as throughout Italy. At Herman, on the Missouri river, where Prussian vine dressers are thriving by making admirable hock, I feel convinced their profits would be enhanced by simply introducing the Palestine system.

It is because the writer foresees in the future, how this successful branch of industry is to flourish on the far-extending prairies, that he dwells with more force and pertinacity on this, in his view, great subject. Following the simple, but in all respects, safest course on flat sections of the country, or rather where a sudden blast of wind, from acting against the swinging cluster, either breaks it off, or blights the berries, the happiest results would follow.

Such is the bounty of the harvest in Syria always, and it must have been so for ages, that the writer has had wine, rich, luscious, and nutritious, on the table in Jerusalem, which could be afforded at fifteen cents a gallon. The juice was pressed out by exceedingly rude apparatus, the grapes having first been brought from villages by the Arabs. And there is no reason why the same economy might not be practiced here. We have hardly commenced thinking about wine-making yet, but that time will also come. Wine and temperance are the characteristics of Syria. More of this, however, on another occasion. To be sure, Mohammedans do not drink wine, but others residing in their midst do, who are proverbial for their sobriety, industry, and probity.

[The above is from a gentleman who has traveled extensively in the East, and with an observant eye. So many associations cluster around the history of the grape, that something fresh from the land of its home will be read with peculiar interest. We should be very glad to have the subject continued.—ED.]

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## RAISING SEEDLING STRAWBERRIES.

BY A. S. FULLER.

*How Seedlings are Produced.*—In attempting to produce a new variety of strawberries from seed, it should first be decided what are the qualities desired, and then, by selecting two varieties that possess these qualities as near as may be, and by fertilizing one with the other, we can come nearer to the object in view than we should by sowing seed collected indiscriminately from varieties not properly fertilized.

For instance, let us take the Wilson, which is very prolific, quite large and firm, but is rather acid, and too dark color, with a calyx that does not part readily from the berry, and the Peabody, which is not prolific, though large, and is of superior color, and sweet, and has a calyx that parts readily.

Now, let us place these two varieties at some distance from other varieties, but in close proximity to each other, so that they can be the more readily operated upon. When they come into bloom we remove the stamens from as many flowers as desired, and then with a fine camel's hair pencil take the pollen from the other variety, and dust it over the pistils of the flower from which the stamens have been removed. It is well to place a fine netting over the plant operated upon, to prevent insects from fertilizing it with pollen from inferior varieties.

The flowers should have the pollen applied several times, a few hours between each application, so that the fertilization shall be complete. It is well to use both varieties as parents, and fertilize the Wilson with the Peabody, and vice versa, as it can not be determined which will produce the best until proved by actual experiment. I do not mention the Wilson and Peabody believing them to be the best to raise seedlings from, but only to illustrate the principle. From my own experiments with them I have been somewhat disappointed, for nine-tenths of the seedlings from the Wilson fertilized by the Peabody were more acid than the parent, although I succeeded in getting the color, and some of the other characteristics of the Peabody. But using the Peabody as the parent, I have had better success—getting a better colored berry, sweeter, and some plants that were quite prolific, with almost invariably the long neck, which is a peculiar characteristic of the Peabody.

Two varieties of the same species, or two distinct species, (unless too far removed, like the Alpine, which I believe will not hybridize with any of the others,) may be brought together and valuable varieties grown from the mixture.

But it must be remembered that the varieties now in cultivation have been so mixed and cross-fertilized that it is almost impossible to get a true cross between any two varieties.

The effect of fertilization of previous generations will sometimes show itself when and where least expected. Sometimes the best results will be obtained by merely sowing seeds of any good variety, trusting to its inherent good qualities being transmitted to the offspring.

From the Austin I have got seedlings all of which resembled the parent, but were inferior; and I have noticed that all of this class, such as the Downer, Iowa, Chorlton, Georgia Mammoth, etc., are very likely to produce varieties no better than the wild Western berry from which they evidently all originated. It is very easy to get a large variety from this class, but seldom a good one. From the Biction Pine I have grown large, sweet, orange-colored fruit, but, like the parent, unproductive.

From the Oscar, which is a poor grower, I have produced fine growers, and those that were moderately prolific; but the fruit was sweet and dry.

The results of some of my experiments are exceedingly curious, such as producing five distinct varieties from the Bartlett, all of which had entire leaves, not lobed. They were similar to those described by Duchesne as raised by him

at Versailles in 1761, and called the *Monophylla*, it being just 100 years (so far as I have been able to learn) since the first one-leaved strawberry was grown until the second was fruited by me in 1861. But neither was of any value, except as a botanical curiosity.

From the Iowa I produced a five-leaved variety, and one with leaves having a beautiful silver stripe, but of no value to the cultivator.

*How to raise Seedlings.*—When the berries from which we wish to grow seedlings are ripe, they should be mashed and mixed with dry sand, so thoroughly that no two seeds shall remain together, putting sufficient sand to absorb all the moisture. Then sow the sand containing the seeds in a bed previously prepared in some half shady place, or under glass, sift on some fine mold, covering the seeds about an eighth of an inch deep. If the soil is kept moist, the plants will begin to appear in about four weeks, and will continue to come up until cold weather; at which time they should be covered lightly with straw, say one inch deep. The plants should be set the following spring, 18 inches apart, in rows, at least two feet apart.

Stop all runners every week throughout the season, and keep the beds clean. The second year after transplanting, you will have fruit. Mark sexes of each as they come into blossom. As the fruit ripens, mark the time and character, and select the very best and destroy all other plants. Lift carefully those that are to be preserved, and put them into new beds where they will have more room to make runners. The correct estimate of the value of any new variety can not be ascertained until it has fruited two or three years. For my own part, I shall never save a pistillate, although I have done so heretofore extensively, for the purpose of ascertaining by actual experiment whether they were any more likely to be better, or more productive than the bisexual varieties.

The results of some of the largest experiments which I have tried are, that out of several hundred seedlings of 1856 none were good, although sown from the best seed that I could obtain. In 1859 I raised another large quantity. Being more careful in selecting the varieties and in their fertilization, the result was a thousand different varieties. There were sixty pistillates, one stamine, which produced no fruit, and the remainder bisexual or hermaphrodite.

Out of this number, I have three varieties that have fruited three years, that I think worthy of being cultivated. From two hundred seedlings of 1860, fruited two years, I shall keep two for further trial.

To those who may think this a tedious undertaking, I would say that no one should undertake to produce new and improved varieties of fruits and flowers if it is to be looked upon as labor. It should be made a pleasant pastime.

[The above was read at the last meeting of the Farmer's Club of the American Institute, and is sufficiently interesting to find a place here.—ED.]

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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**HYBRID PERPETUAL ROSE, EVEQUE DE NIMES.**—(*See Frontispiece.*)—We present this month for a frontispiece an engraving of the Rose Eveque de Nimes, a comparatively recent acquisition. It is a Hybrid Perpetual, hardy, and promises to take its place among the best. Our description of the plate was overlooked till the form was made up, and we merely allude to it here.

**CHERRIES.**—We are indebted to Mr. Caywood, of Modena, N. Y., for a box of Great Bigarreau and Bigarreau of Mezel Cherries. They were large and fine. The Great Bigarreau is one of our best Cherries.

**THE CLARKE RASPBERRY.**—Last spring we received a seedling Raspberry from Mr. Clarke, of New Haven. It has fruited, and afforded us much satisfaction. It is a stout grower, and has borne abundantly. The berry is large, red, sweet, and high flavored. It is a decidedly good thing. We should not be sorry to have a large bed of it. Mr. Clarke's plan of sending a plant instead of simply the fruit, is a good one, as it enables us to speak more confidently than we otherwise could. We received at the same time a new Rhubarb, which looks finely, but we have not yet cut it.

**THE ASPARAGUS BEETLE.**—We have received additional items in regard to this beetle, but we think there must be others of our readers who have seen it. We desire all the information we can get.

**MILLER'S HORTICULTURAL AGENCY.**—We gladly call attention to Mr. Miller's new Horticultural Agency, announced in our advertising columns. The object is to afford facilities heretofore wanted for the sale and purchase of plants, trees, fruits, books, wire work, and all other objects pertaining to Horticulture. Such an agency will prove equally beneficial to buyer and seller. The design is to keep on hand specimens of all the objects above named, which will afford the public an opportunity of making selections without the labor of canvassing half the city to find articles which no one person keeps on hand. Mr. Miller is a

prompt business man, and is deserving of the patronage which we hope he may receive.

METCALF'S KEY TO BEE-KEEPING.—The title of this book, which has just been laid on our table, reads as follows: A Key to successful Bee-keeping: being a Treatise on the most profitable Method of Managing Bees, including the Author's new System of Swarming, whereby all watching for Swarms during the Swarming Season is done away with, and all loss by flight to the woods prevented. By Martin S. Metcalf. Published by C. M. Saxton, 25 Park Row, New York. Price 35 cents.—There is a promise of something fresh in this little book, but we have had time only for a mere glance.

TO MAKE Currant Wine.—We have lately had many inquiries in regard to making currant wine. "One who has tried it" sends us the following, which we insert here, not being able to get it in its proper place. The receipt is a very good one, and if followed out will insure a good article of its kind, as we know from having tasted it. Our own method differs but little from it. If a sweet wine is desired, a little more sugar must be added, and the process of fermentation stopped before it is completed; but this we do not advise. In regard to adding spirits, the sugar will furnish enough of that; none should be added.

*First.*—The currants should be fully ripe.

*Second.*—Have every thing prepared beforehand—all the currants picked and ready, as when one commences the process of making the wine he has no time to look about for materials of any kind. The work must be done speedily, and with cleanliness.

*Third.*—Have ready a small press, a tub, a pounder, a pan to receive the juice, a measure, a dipper, a funnel, and the vessel to receive and ferment the wine.

*Fourth.*—To make five gallons of wine, use twenty pounds currants, and nine pounds double refined loaf sugar, to be dissolved in some of the wine over the fire in a preserve kettle. To make a barrel of wine requires about 165 pounds currants. Sixteen pounds yield one gallon of juice in a press: two and a quarter pounds sugar to each gallon of wine, which consists of currant-juice and water, as hereinafter described. This does not make a sweet or sirupy wine. If sweet wine is desired, it may be made at any time after the wine is fermented, by adding sugar to suit the taste. If more sugar is added than stated above, and well fermented, it adds strength and not sweetness to the wine. If the wine is not well fermented, it remains sweet, and is a sirup not wine.

*Fifth.*—Take twenty pounds currants; mash them well in the tub with a pounder; have ready a bag of light bagging; with a dipper put the pomace in the bag; lay this in the receiver, (mine is made of a half bushel measure fitted with a follower, with a wooden screw, such as is used on a carpenter's bench, but placed perpendicularly). The bag need not be tied, only doubled over in the receiver;

then press gently at first, afterwards more severely; when the juice is all pressed out, strain and measure it. I find it yields five quarts. Then take the pomace from the bag; place it in the tub, and pour on to it five quarts pure rain water, (hard water will not do;) pound it well, mixing with the water, and breaking such currants as did not get cracked before; then press as before. The yield will be something over five quarts. Take the same pomace from the bag; place it again in the tub; add five quarts pure rain water, (the rule is to add as much water each time as there was currant-juice obtained from the first pressing;) pound this well, and press; placing the wine each time in the fermenting vessel. Having obtained all the liquid, let the vessels used be soaked in water, preparatory to cleaning. Take some of the wine to dissolve the sugar, which should be in the proportion of two and a quarter pounds to each gallon of liquid thus obtained. For twenty pounds currants the sugar required is nine pounds. When the sugar is dissolved, mix all together, and let it ferment in a moderately cool place. It is better that the fermentation should be slow; at first it will be rapid. The vessel should be full, and must not be closed tight, especially if it is a glass vessel. The carbonic acid gas evolved will break any vessel if tightly closed. A small aperture may be left for its escape. I prefer the tube bung, letting the gas escape into a cup of water. I let it ferment about six weeks.

*Sixth.*—Sugar added to the wine increases its bulk or measure in the proportion of 12 lbs. to one gallon. In making a barrel of wine it is better to have a larger amount of currants on hand than a less quantity.

*Seventh.*—Alcohol barrels are often used for this purpose, but are not suitable. Alcohol barrels are prepared inside with glue, which is not dissolved by it, but wine will dissolve this glue, and becomes impregnated with its flavor. The best casks are those that have been used as wine barrels, with iron hoops, and may be bought for one dollar each. Wooden hoops in a cellar, after a year or so, burst off and cause leakage.

*Eighth.*—The wine, after fermentation, should be bunged up tightly and left to stand in a cool, dry place until it is clear, when it may be bottled if intended to be used within two years. When first made, and for two years, it is a bright ruby color. In three years this color is precipitated gradually, and the wine assumes a color resembling brown sherry. If kept in bottles until this deposit takes place, it is liable to be again mixed with the wine when the cork is drawn, and this makes it muddy. The Scriptural injunction, “Look not upon the wine when it is red,” is especially applicable to currant wine. This wine carefully made will keep without the addition of spirits, and is worthy of any prince’s banquet after it is old enough to precipitate its red color, and continues good, if well kept, for the next six years. Mr. Downing says, “Currant wine is very popular among farmers, but which we hope to see displaced by that afforded by — grapes.” I advise to try this while we are cultivating the grapes, and then give us good grape wine too.

## Correspondence.

ED. HORTICULTURIST:—I send by express two varieties of Cherries, Conestoga and Late Amber, the latter a seedling brought to notice by Jacob Cocklin, of York County, Pa., (Shepherdstown P. O., Cumberland County, Pa.); the former by Caspar Hiller, of Conestoga Centre, Lancaster County, Pa. I have never seen either noticed in the HORTICULTURIST, and deeming them valuable for their lateness, and other good qualities, take the liberty of sending you specimens. Remember the Black Tartarian, Mezel, etc., were gone a week ago.

The Amber is a beautiful pyramidal tree, very productive, and will bear its fruit until nearly dry without rotting, if left on the tree.

The Conestoga is a rampant grower and profuse bearer. Of their quality and appearance I hope you may have a fair chance of judging.

I have about thirty varieties in bearing. The Triumph of Cumberland was this year the largest, most beautiful, and of the first quality. It and the two above varieties blossomed some ten days later than most varieties, and are with me the surest bearers. I have no interest in praising these varieties, for I have no trees to sell, but wish all lovers of cherries to have it in their collection.

Also a Raspberry, the Surprise, found wild in Missouri by some western horticulturist, and was sent me by George Husman, the horticultural pioneer of the far West. It is perfectly hardy, a strong grower, and good bearer. There may be but a few berries ripe upon it, but you can judge of its quality.

I will also send you a few of a red kind that we have known here for thirty years, and which is much esteemed with us. Can you tell me the true name of it? it is called Purple Cane, English Purple, Red Cap, and some other names. It is an American variety, propagating from the points drooping to the ground. None excel it in strong cane and profuse bearing. This red one, Doolittle, (a superb fruit,) and the Surprise will occupy most of my grounds that will be planted in Raspberries hereafter. Of course, Red Antwerp, Brineklé's Orange, etc., some twenty varieties, have a place; but the foreign sorts are too much trouble, where we only get from ten to fifteen cents per quart.

Of Strawberries I might also write, but to my notion it would only include three names for general cultivation: Albany, Hovey, and Triomphe de Gand, the latter holding the front rank. Fruit now near me in alcohol of the Triomphe that measures five inches in circumference. My crop of Strawberries run in the neighborhood of a hundred bushels. Not bad for a little place, is it?

S. MILLER.

*Calmsdale, near Lebanon (P. O.) July 7th, 1862.*

[The Cherries and Raspberries came to hand in good condition, for which we

thank you. The Late Amber is a medium sized cherry of firm flesh and delicious quality. We know of no late Cherry so good. Next fall it goes in our grounds if a tree can be bought. Can you send us a "portrait" for a frontispiece? We were so absorbed in tasting, that we forgot it till they were all gone. The Conestoga seems to be a great bearer, of good size, juicy, and of very good quality, but by no means equal to the Late Amber. It is valuable, however, for its lateness and good quality. The Surprise Raspberry belongs to the Black Cap family. The berry is large of its kind, and very sweet. The red berry is known by a variety of names; but we think, for several reasons, that it would be best to retain the name of Red Cap. It is a high flavored fruit, and one of the best for general cultivation, especially among farmers.—Ed.]

EDITORS HORTICULTURIST:—*Gentlemen*,—We have at times delighted in unweaving the mysterious web and woof of vegetable life. The cultivation and care of plants and trees always brings pleasure; and we confess a peculiar fascination in watching those pips or seedlings, planted by our own hand, as daily they gather new strength, and so reach the maturity of bloom or the ripeness of the harvest. They are our *other* children. What if better plants could be had from a florist? they would be only as adopted favorites; the *other*, as it were, of the same flesh and fibre, cherished tenderly. Yet they will not be always mindful of our wishes. Slips procured with difficulty repel our delicate attentions, become obstinate, and refuse every semblance to radication. Won't you tell us how better to propagate our choice Evergreens? We have attempted many times some of the new Junipers, and Arbor Vite, and Rhododendrons; and with green-house, and bell-glasses, and constant care, thought to succeed; but quite too often to be agreeable to us, have failed. Won't you tell us also when and how to shear our Evergreens? Would you cut back the leaders and side branches of your Spruces? And would that treatment of the Pines, especially, be well, when too open or not of regular contour? The Hemlock and the common white and red Cedars bear the shears well; but the tendons of our arm strangely relax when we reach toward the drooping Juniper, (*J. ob. pendula*,) or the drooping Arbor Vite, (*T. filiformis*,) or even the *Biota aurea*. Would you leave these untouched, and so not pleasing to your eye, or by cutting suit them to your purpose? One thing more, and I will have done. Why is it, in the name of consistency, that nurserymen persist in calling all drooping trees and plants "weeping?" We think the several varieties of drooping Willow the perfection of beauty and grace, and far removed from the sombre associations of a hearse. The beautiful Kilmarnock is not "weeping." Watch it in a light breeze: call it laughing rather, and we bestow our hand, and with it our approval. Yours truly,

[We share with you all the delight you have felt in "unweaving the mysterious web and woof of vegetable life." The pleasure is as deep as the mystery which

surrounds it; but the devoted and loving student sometimes gets a glimpse of the inner life not vouchsafed to him whose soul is not pervaded with a deep and pure love of nature. Such a glimpse, we think, you have more than once enjoyed, and long for a deeper insight into the mysteries of nature's inner life. We will help you to the best of our knowledge. We can conceive of many reasons why you have failed to propagate your evergreens, even with the assistance of your greenhouse and bell-glasses. The details would require a long article. A house for propagating evergreens should have a northern exposure, bottom heat, and a low temperature in the house. With these conditions, and a bed of charcoal and sand, you will have all reasonable success. In the spring you can obtain these conditions out-of-doors by using a frame facing north, and ventilating judiciously. Some evergreens are better raised from seed than cuttings; for instance, the Pines. The *Arbor Vitæ* is easily raised from cuttings; the Juniper can be readily propagated by twisting and layering a branch in the open air; Rhododendrons you must graft. We think these hints will put you in the right way. Evergreens seldom or never need the shears, except when grown as hedges. When a hedge is once formed, one clipping or shearing is generally sufficient, and this should be done in spring just before growth begins. If another shearing is necessary, it should be done just before the second growth. Shears are made for the purpose. A sickle or grass knife is sometimes used, but never makes neat work except in very skillful hands. Stretch a line at the top at least, so as to preserve the uniformity of the hedge, unless you have a very nice eye. Preserve, as much as possible, the natural outline of the tree of which the hedge is formed. We would not cut back either Spruces or Pines, except they were wanting in natural form and fullness; and then only enough to bring them into proper shape. If the Juniper, etc., were not of the proper shape we should cut them, but not otherwise. The term "weeping," as applied to trees, is undoubtedly a misnomer, and one that we could wish to see abolished. Trees do not weep.—Ed.]

WHAT'S IN A NAME? A ROSE BY ANY OTHER NAME WOULD SMELL AS SWEET.  
—*Mr. Editor*,—Were it not that I know you personally to be a man of good sense and gumption, I should class you among the green ones. Could not you see from the "hand write" that my article, published in the May number, page 222, signed *Pratiquer*, was written in a female hand, and that the hits on female names were consequently legitimate? why need you, in another article, page 223, say, "Ugly *Pratiquer*?" Ugly, indeed! You must know I have as handsome a miniature of him as you or any body else ever saw. But my present object is to let you know how you were taken in. *Pratiquer*, being engaged in his vineyard, desired me to furnish an article for him for the May number, and I thought it a good opportunity to give the female names a sly poke under the ribs. You men are so weak on that point that you prefer to give a poor name, if female, thinking it flatters our vanity. Now, I am willing to compromise with you: call flowers

by female names, for they are changeable, evanescent, *and many soon go out of fashion*; but fruits should have something substantial in the name. I do not fancy your suggestion to give *male* names, but I think it preferable to ladies' names, which change in every generation at least. But enough of this. I wish you would treat us ladies, as you are pleased to call us, as if we knew something, and were at least as nearly equal to men, as the rebels are said by themselves to be to the Yankees—one to five—I think you would find your account in it.

How about that joke of the Tropaeolum which you played on one of your lady friends? Will you tell me, or shall I apply to Mr. Buchanan? Yours really,

FRANCES MARY.

[Well, Frances Mary, we suppose we shall have to accept your explanation, and admit that we have been "taken in" by a woman; but how could you have "gone and did it?" See how you have rewarded our innocent and unsuspecting nature. Many men would go into antics, and never trust a woman again; but we shan't do that. We shall go right on trusting in women, and think them all angels. We said "Ugly Pratiquer," but only playfully. Isn't that plain? Now, Frances Mary, what do you mean by calling the women "changeable," and "evanescent," and "going out of fashion?" You know they ain't, and they don't! We can't compromise on that basis; it wouldn't do, for we should lose more than half our friends. We'll do it on a more reasonable one, though. Don't we treat the women as though they knew something? That's odd enough. If you had made the opposite point, you would have been much nearer the head of that nail. Why one good woman is equal to any five men, and better than all the rebels in Secession.—The joke about the Tropaeolum consists in this, that we left a new and rare green-house plant in charge of a female friend, and she ate it up for a common 'sturtium! Wasn't that good?—Ed.]

DEAR SIR,—As it may be interesting to some of your readers to know how to preserve the flower of the Night-blooming Cereus, I will give you my experience in preserving it. On the 27th of June, 1861, I saw that I was going to have a flower that night. Having seen it stated that the flower could be preserved in spirits of wine, I procured a large glass jar filled with spirits, and when the flower was fully open, about ten P. M., I cut it off from the plant, and put it in the jar, so that it was all covered with the spirit. It is still in a perfect state of preservation. I preserved one on the 25th of May last, which looks well. As the flower opens and is gone in a few hours, it is not the privilege of a great many to see it on the plant.

Yours truly, GEORGE CRUIKSHANKS.

Whitinsville, Mass., July 8, 1862.

[The above is a very good method of preserving the Night-blooming Cereus, as well as many other flowers, and may be new and interesting to many of our readers. If it be wished to send the flower to a friend, cut it off during the day, and

put it in a box with sufficient room to expand. It must be cut, of course, on the day of the night that it would naturally open, to have it in perfection. We have had them open in our hand while carrying them to a friend.—ED.]

A FEW "BEDDING PLANTS."—Our correspondent, "FOX MEADOW," who is always looking about with his eyes open, sends us the following useful hints about Bedding Plants:

MR. EDITOR,—Roving through our horticultural beauties in the vegetable world, allow me to inquire, "Do you know Pretty Polly?" Suppose you do lots of them! But let me tell you what Pelargonium Pretty Polly is. This Pelargonium is of the sweet-scented order; produces a good truss of flowers, bright rose, white throat, with black spot on the upper petals; stands the hot weather well; grows profusely and flowers admirably all the summer in the open border; is one of the good bedding-out plants. A row or clump of it makes a dashing show.

*Quercifolium Superbum.* Another very sweet-scented geranium, with a bright scarlet truss, the upper petals having a dark spot. A great improvement on the old varieties in its class.

*Lobelia Erinus Compacta.* Every body who loves flowers ought to grow it. A most lovely blue, of very dwarf habit, and perpetually in flower. Is well adapted for an outside border plant, verging the walk. Is always to be seen, yet unassuming. Grows admirably in pots, and flowers during winter.

*Lobelia Aurea*, is sister to the above; habit nearly the same, but having flowers of a beautiful golden yellow. Grown in lines or rows, these two Lobelias form a pleasing sight and a beautiful blending of color.

*Gazania Splendens*, with me stands the hot sun well, and grows well; over fifty flowers on one plant. Every body who sees it asks, "What is that?" It is not *Rigens* we used to know when a boy in "Fader Land." Strikes freely from cuttings in the fall and spring.

*Wellington Hero*, is a bright scarlet geranium, with a very striking white eye. The truss is good; petals well rounded, with good substance; free bloomer, and is what may be termed a good scarlet.

*Heliotrope, Beauty of the Boudoir*, is one of the most fragrant of its class; is one of the "purples," having very large trusses of flowers, and no person will be deceived in his expectations of a good Heliotrope who grows it. We have seen a good stock of the above growing at Mr. John Wood's florist grounds, Fort Washington, who, I am proud to say, is quite a connoisseur in the good little varieties that tickle the weak points of Flora.

We are enabled to endorse all that Fox Meadow says of the above plants, though we think Gazania splendens has been overrated by some as a bedding

plant for our climate. Add *speciosa* to the Lobelias, and we have as perfect edging plants as could be desired in their way. Scarlet Geranium Wellington Hero is one of the very best Scarlets that we have yet seen. Oh! we forgot to say that we *do* know "lots" of Pretty Pollies, and they talk, too, and say all kinds of pretty things.

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BROOKLYN HORTICULTURAL SOCIETY—CONVERSATIONAL MEETING.

THE Society met at the Academy of Music, on Tuesday evening, June 24th, President Degrauw in the chair. On the table were paintings of flowers by Mrs. Stirrup; Antirrhinums, Petunias, a very fine seedling Rose, etc., from Mr. Burgess; and cases of insects from Mr. Weibe.

A letter was read from Messrs. Graef and Weibe, proposing a plan for the destruction of the measure worm in the city, which they wished the Society to examine and recommend. They proposed to rid the city of worms by the year 1864. They wished to know how far the Society would aid them in the matter in case of success, claiming no compensation until a committee should report favorably.

After much discussion by Messrs. Eastman, Jones, Spooner, Barnard, Fuller, Burgess, and others, it was moved by Judge Greenwood, that a committee be appointed, to report at next meeting. Dr. Jones, Judge Greenwood, L. B. Wyman, Rev. Dr. Storrs, H. A. Spooner, Professor Eaton, S. J. Eastman, Dr. Trimble, and Judge Murphy, were appointed said committee.

Dr. Jones stated that the worms were already in our gardens on all kinds of trees, plants, and shrubs. As far as he had investigated the matter, they were first seen about twenty-four years ago, even on the Ailantus.

Dr. Thorne had tried every thing to rid his trees of the pest, but had been unsuccessful.

Mr. S. J. Eastman, said he had found more benefit from placing small wren houses in the trees and about his grounds than from any thing else he had done, and he had no doubt if the city would do it generally, it would be productive of much good, and then have strict laws for the punishment of any one injuring or frightening away the birds from the streets and trees of the city.

Mr. S. B. Brophy read a communication from Mr. L. Brandeis, on the *Anacharis alsinostrum*, a fresh water plant of wonderful powers of increase, not known among botanists to have flower bearing plants. Mr. Brandeis has had it flower in his aquarium, and regards the discovery as an item of great interest in botany.

A. S. Fuller stated that the Rose of Mr. Burgess was only a sample of what might be accomplished by raising seedlings. No one could plant seedlings but what they would get something good, and they might get a very superior one which would be worth thousands of dollars.

Mr. S. B. Brophy hoped the practical gardeners present, when speaking of roses

or any kind of flowers, would give the members the qualifications of a perfect plant, fruit, or flower, and what was necessary to constitute it a perfect one of its kind. In England, Glenny's standard was adopted, and unless they were up to that, they were not allowed at exhibition. This is much wanted here, and it is to be hoped this Society will take the lead in this much-needed reform. It costs no more in time or expense to grow a good plant or flower, than a bad one, and the result will be much more satisfactory.

After some further discussion, the Society adjourned.

The Society met again July 8th, the President in the chair. Mrs. Humphries presented Bouquets and Baskets of Flowers; Mr. Miller presented native plants, such as wild Rhododendrons, Orchids, Cranberries, etc.; Dr. Benedict a flower of the *Hæmanthus Bakerii*; Mrs. Duychinck a beautiful double-white Hollyhock; Mr. Burgess new dwarf Digitalis, seedling Roses, seedling Dahlias, Daphne *eneorum*, etc.

The President said that at the last meeting a committee was appointed upon the subject of the measure worm. He understood that the committee were prepared to report, and the Society would now be happy to hear the result of their investigations.

Dr. Jones, the Chairman of the Committee, then submitted the following report:

Mr. PRESIDENT—The Committee appointed at the last conversational meeting of this Society "to examine proposed plans for the extermination of the measure worms, and to bring the whole subject in relation thereto, in an intelligent form before the Society," respectfully report that they have given the subject referred to them as much consideration as the time allowed, permitted. The description given by the late lamented Thaddeus W. Harris, of the worms which infest our shade trees, is in the main correct. They belong to the order of Lepidopterous insects, to the great division of the Phælana called Geometra, and to the species *Geometra micosericaria*.

The Committee have examined several plans submitted to them for the extermination of this pest, particularly the one submitted by Messrs. Graef and Weibe, a copy of which is herewith presented to the Society, and we respectfully recommend the adoption of the following resolution:

*Resolved*, That while, in the opinion of this Society, the plan proposed by Messrs. Graef and Weibe for the extermination of the worms which infest our shade trees is not entirely new, yet that, if faithfully carried out, it will so materially reduce their numbers that in a few years they will scarcely constitute a nuisance, and it may possibly be effectual ultimately in accomplishing their extermination.

They beg also to state that many of this order of insects are now being preyed upon by internal parasites, several kinds of which have been obtained

from the crysalids. One of these is a small ichneumon fly, described by Mr. Say in the first volume of the *Boston Journal of Natural History*, under the name of the *Cryptus conqueritor*; the other a smaller and much rarer insect, also described by the same gentleman, under the name of the *Chalcis ovata*. Your Committee congratulates the Society upon the appearance of several of the species of this order, the hunter-fly or wasp, in this city; they have, several of them, observed the havoc among the gronutra, in its caterpillar and pupa states, and they have great faith in the power and ability of this order of insects to materially lessen, if not destroy the great mass of the lepidoptera. Your Committee believe, that the effort toward the extermination of the measure-worm can be materially aided and the work expedited by encouraging and protecting our native birds, the martin, swallow, wren, etc. The former can be accomplished by placing small houses in the trees for their use. The city authorities and our private citizens should at once, conjointly, carry this suggestion into effect. The cost would be small, the advantages great. At the same time the Common Council should pass an ordinance making it a severe penalty to molest or destroy either the birds or the bird-houses, and cause such an ordinance to be promptly and effectually carried into effect. In connection therewith, your Committee would recommend the adoption of the following resolution:

*Resolved*, That the President of this Society petition the Common Council, in the name of the Society, to place in the trees growing upon lands belonging to the city, such small boxes or houses for the object herein set forth, and to pass an ordinance for the effectual protection of birds and their habitations.

They further believe that the city can be more speedily cleared of these worms by some well-digested plan, which aims at the methodical destruction of this insect in all its stages, faithfully, perseveringly, and extensively carried into effect, and such a one has happily been presented by Messrs. Graef and Weibe.

They would therefore recommend that a committee of one from each Ward in the city be appointed by the chair, to ascertain the condition of the infested trees in their respective Wards at the present time; that this Committee report in writing to this Society the result of such examination; that said Committee be continued, with power to fill any vacancy that may occur, until such time that they may be discharged by the Society; that they each year successively examine said trees at or about the corresponding month of their first examination, and report annually to this Society the result of their examinations and their opinions thereon. Also, that the Society offer a premium of \$— to be awarded to any person or association of persons whose plan or plans may prove the most speedy and efficacious in permanently exterminating from the city, the worms which now infest our shade trees, and at the same time by its operation prove the least injurious to such trees.

They would further suggest the propriety of raising the amount of said premium from the members of the Society by private subscription.

Your Committee firmly believe that parties owning property and having infested trees thereon will freely and willingly remunerate any one who rids them of this pest, and the Common Council will deal liberally with those who confer so great a boon upon our beautiful city.

Finally, they are of opinion that this Society, in thus offering a premium, keeps within the limits of its powers, and by appointing a number of its members as co-laborers in the work of destroying and freeing our city of this objectionable worm, is discharging its duty to the community, and all obligations, financial and otherwise, imposed upon it by this question. Respectfully submitted,

J. B. JONES, M. D., Chairman, D. G. EATON, J. GREENWOOD,  
A. J. SPOONER, L. B. WYMAN, SMITH J. EASTMAN.

Dr. Trimble, being called upon for some remarks, said that so far he had not examined the matter so as to be enabled to report that evening. His investigation had not been concluded, and had been directed chiefly to the parasite insect spoken of by the chairman of the Committee. But his investigation, he would say, promised satisfactory results. Lately he took some thirty pupæ of the measure-worm, and in fifteen of them he found the larvæ of this parasite. These were procured in New York; those he had procured in this city he had not as yet had an opportunity of examining. If the Society chose to continue the subject, no doubt he would be able to report definitively in a few weeks. As to the martins and swallows, he thought they would be a disadvantage to them in getting rid of the worms. What they would have to depend on to get rid of the worms, were flies, and those birds were essentially fly catchers. The wren and the small warblers would be useful, but the best sort of bird for the purpose was the Baltimore Oriole. Birds such as the robin and thrush would be useful, but we could not induce them to frequent the city. As to the Oriole, they could not get them to come here because the trees were not high enough, their habit being to build in lofty trees. Whether this pest—the measure-worm—could be extirpated by artificial means, it was for the Society to determine. It was but a very limited power that man had over these insects, so rapid was their multiplication. He thought they must depend most on the parasites to destroy them. How far the ichneumon parasite would help them it was difficult to decide; time alone could tell that.

Mr. A. Spooner moved that Dr. Trimble be requested to continue his investigations and report at his earliest convenience.

Mr. Burgess bore testimony to the fact that the wasp is a destroyer of these caterpillars.

Mr. S. J. Eastman agreed generally with the report. He considered the proposition of the gentlemen upon whose application to the Society the report was predicated, to be a thoroughly practical one. They described the habits of the worms, and the only practical mode of destroying them. Indeed, he

thought it the only plan they could depend on with any prospect of success. It was one attended with much labor by the gentlemen who undertook the task, but they asked for no remuneration until the work was completed to the satisfaction of the Society. Therefore, he considered that the Society should not hesitate in accepting their proposition, for he was confident that they would be successful. He did not believe in waiting until these ichneumon insects accomplished the work; well and good if they aided these gentlemen in the feasible plan proposed. He had the utmost confidence in birds, as suggested. Last year he put up a number of bird-houses in his grounds; this year he doubled the number, and next year he would treble them. The result had been most satisfactory in his and adjoining gardens.

Some discussion then ensued as to whether it were competent for the meeting to entertain the report, it not being a business meeting. Finally, the report was laid over till next Tuesday evening, and the special committee were requested to continue, and assist at said meeting.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—The Fruit Growers' Society met at the Court House in Rochester on Tuesday, the 25th of June, the President, H. T. Brooks, in the Chair. We copy the proceedings from the report in the *Country Gentleman*.

#### PRUNING DWARF AND STANDARD PEAR TREES.

The following question was discussed: What is the best form of pruning the Dwarf Pear Tree? and what the best for the Standard, and the best season for doing it?

W. P. Townsend, of Lockport, said he was decidedly in favor of the pyramidal form, cutting pretty severely, and leaving the lower branches the longest. Pruned after the severe frosts was past. If pruned too early, the frost injured the top buds. Care should be taken to cut to the bud, which would make the top even. The habit of the pear tree is vigorous, and bears close pruning. Would cut off the limbs from the body about one foot high before letting the tops come out. Would have the limbs come out about 18 inches or 2 feet. If the tree is vigorous, would not cut so short as if the tree was not.

G. Ellwanger did not prune sorts of vigorous growth as severely as those of more moderate growth.

C. Downing, of Newburgh, said the upright kinds should branch lower than those that grow more horizontally.

E. Moody, of Lockport, thought dwarf pears should be pruned *inside* as well as *outside*—they should be thinned out on the inside. The plan of shearing like a cedar, the outside of the tree, will in a little time spoil the tree.

C. Hooker said he had found the same difficulty in pruning—the inside of the tree was growing too thick, and he found it necessary to thin the inside.

H. N. Langworthy thought it was evident that the pear cultivators were on the

extreme in pruning so close. He thought it necessary to give the tree a little more room—not to prune so close—would cut the inside out of standard pears—would take out the leader. The trees are disposed to make a leader, but by cutting it out, it makes the tree wider and better shaped.

Mr. Lee, of Newark, cut back in August in order to get fruit spurs, and so fruit the next year.

#### PINCHING PEAR TREES.

G. Ellwanger.—The first advantage of pinching is in checking the growth, and thus assisting the formation of fruit spurs. It also assists the job of pruning in winter. Generally performs the pinching in June, when the young shoots are about 6 inches long. He only pinches those shoots which are intended to bear fruit the next year. He never pinches the leading shoots. The object of pinching is to make fruit buds, and also to thin out the inside of the tree.

#### USE OF ASHES, LIME, AND CHARCOAL IN ORCHARDS.

The President thought charcoal a very valuable material to use as an absorbent of manure. His apple trees, planted on charcoal beds, are very much improved indeed, and were probably twice as large as the others in the neighborhood.

Mr. Harris, of Rochester, asked if there was not considerable ashes in the soil, and was answered in the affirmative.

Dr. Beadle had used pure charcoal as a manure, and could not see that it produced any effect. Thought its principal benefit was owing to the burnt earth, which was always found in old charcoal beds, and which was found in England to be very valuable for fruit trees.

Dr. Sylvester, of Lyons, had found considerable benefit from it. Thought muck a material very similar to charcoal, producing very similar effects.

#### FIRE BLIGHT ON PEAR TREES.

The President had thought that the blight of pear trees might be owing to the use of animal manure.

L. B. Langworthy was perfectly dumb-founded as to the cause of the fire blight in the pear. Thought the use of animal manure was perhaps the cause. He thought it was an overstock of sap, which could not be elaborated by the leaves—it was in fact *plethora*. Charcoal he considered to be of very little or no value; but ashes he considered to be extremely valuable—never saw any situation in the world in which it was not valuable—good for every thing.

B. Fish had in one instance a tree which showed considerable inclination to crack, but upon putting on a large application of soap suds and ashes it recovered from the disease, and has not cracked until this year.

S. W. Holmes, of Syracuse.—A German gardener in his city raised a very excessive quantity of fruit in his own garden by the free use of ashes in the ground. He also had noticed in his own grounds a very decided benefit in regard to the quality and early maturity of the fruit, and caused probably by the ashes.

## APPLICATION OF MANURE.

*Question.*—The application of manure to the surface. At what season is the application most beneficial, and in what condition should the manure be when applied?

E. Moody, Lockport, has always been opposed to surface manuring, as being too wasteful. If it was to be used at all, he would use it in the spring early. It would leach some, and would then serve as a mulch to the plant.

E. W. Sylvester, of Lyons, thought it not best to apply fresh manure to the surface, as it would lose all its ammonia, but would recommend composting by putting muck and manure in alternate layers until the pile is 5 or 6 feet high. This remains until fall, and then is fit for use. It is found to be well rotted, and fit for any use. This compost he used as a surface mulching, forking or dragging it in in the spring.

C. Downing would recommend putting compost manure on the trees in the fall, and fork it up in the spring.

H. N. Langworthy has been using liquid manure made from night soil, and found remarkable effects from it—greater effects, in fact, than he had ever seen before from any other manure. Old bearing pear trees had made a growth of 5 feet in some instances, and in all had grown remarkably.

## THE CURRANT WORM.

*Question.*—The Currant Worm. What are its habits? What are the most effectual means for its destruction?

Geo. Ellwanger.—During the past month we have used slack lime every day or every other day, and have succeeded perfectly, destroying all of them—covering the leaves and fruit with the finest dust. It does no harm to the foliage or fruit. He considers it a complete remedy.

H. N. Langworthy has used a solution of soft soap and water, *very strong*—had had perfect success—killed the worms without fail—must be put on often.

Dr. Beadle had found the use of air slacked lime a perfect success in killing the worms.

Dr. Sylvester had used one pound of whale oil and four gallons of soap water, and succeeded entirely in saving the fruit and killing the worms—had pursued the same course this year, so far with perfect success. He applied it every other day.

(*To be continued.*)







### THE MONITOR STRAWBERRY.

*Engraved on Wood and Printed in Colors, by J. W. Orr, for the Horticulturist.*

THE  
HORTICULTURIST.

VOL. XVII.....SEPTEMBER, 1862.....NO. CXCV.

Hints on Grape Culture.—XIX.

**I**N our last we left the vines pruned at the end of the second year, and placed in their winter quarters, from which we now propose to bring them forth; that is to say, as soon as the frost is out of the ground.

We have stated that something more than pruning or shortening in the arm is necessary in order to develop the buds equally, and we now propose to explain the simple process by which this is done. Under ordinary circumstances, the buds will break strongest near the ends of the arms, and weakest near the trunk; and the tendency of these weak shoots will be to grow weaker year by year, until at last little or no fruit at all will be produced. No after treatment will give them size and vigor. If, however, the buds near the trunk are induced to break strong when the arm is originally formed, a suitable channel for the sap will be formed, through which it will continue to circulate under ordinary good treatment. Too much importance can not be attached to this particular part of the subject; it would be difficult to calculate the number of pounds of grapes annually lost by neglecting to establish the proper points for the full and vigorous development of fruit wood. Now let us see how this is to be done. The gradual formation of the arms will do much to accomplish this purpose, and it is for this reason that we discourage leaving them of their full length. Something in addition to this, however, is useful, and even necessary. By bending the arm the sap vessels at certain points will be compressed, and the flow of the sap in a measure controlled. What is to be done, therefore, is to bend the end of the arm towards the ground, and secure it there. This may be done by a string or wire and a peg, or in any better way that the reader's ingenuity may suggest; a long hooked peg will answer the purpose very well. Before bending the arm the trunk of the vine must be

firmly tied in its place, but the tieing must be so done as to avoid having the string act as a ligature. The degree of curvature to be given should be sufficient to move the arm considerably out of a straight line; it should, withal, be a graceful curve, to disarm criticism; it matters not whether it be in the nature of a parabola or a compound circle. This, however, only *en passant*, for readers who are very nice in matters of taste. The degree of curvature may be judged of very well by an examination of the engravings which will accompany our next article, and which should have been given with this. The curving of the arms not only compresses the sap vessels, as already stated, but it places the buds near the trunk at the highest point of the flow of the sap; and this, the reader will understand from what has been stated heretofore, greatly encourages the growth of the buds at this point; for they are placed, for the time being, somewhat in the condition of the buds near the end of the arm.

The arms having been bent, they are to remain so till the new shoots have grown about three inches, when they are to be placed horizontally, and tied securely to the bottom wire. If the vines have been grown as directed, the buds will be on opposite sides of the arm; this, in fact, is their natural position, but it is frequently altered by careless tieing. The arms must be so tied that one row of buds shall be on the upper side, and the other on the lower. In short-jointed varieties of the grape, such as the Delaware, Rebecca, etc., all the lower buds must be rubbed out; otherwise the shoots will be too much crowded. In long-jointed kinds, such as the Union Village, Concord, etc., both the upper and lower buds may be allowed to grow. In this case, the arm may be tied on the upper side of the wire, and the arm slightly twisted so as to bring the buds on the sides. The shoots will naturally grow upright, but in some cases they may need a little assistance. The young shoots must be handled with the greatest care, as they are exceedingly brittle; and a gap once made in the arm is not easily filled. After the arms are fully established, so much care will not be necessary.

The arms are usually bent in the direction in which they grow; but we have found the best results to proceed from an opposite course; that is to say, bending them in reverse order. We fear, however, that the reader will not understand this without the assistance of illustrations, and therefore leave it till our next.

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### THE CIRCULAR CURVE.

BY GEO. E. WOODWARD,

Civil Engineer and Architect, No. 37 Park Row, New York.

It would appear, on carefully reading the article in the August number, page 367, by Mr. James Hogg, that he condemns the use of the circular curve in laying out ornamental roads, for the reason that he has no knowledge of any

heavenly body having a circular orbit. Thus he says: "None of the orbits of the heavenly bodies, or any of their lines of motion, are in the nature of circular curves." And again he says: "I call attention to the fact that the circular curve does not exist in nature, or among the celestial bodies." It would have been proper to establish these assertions by proof, as they are made in reply to well-known principles, and which we are in the act of demonstrating. When one advances a new theory, facts should not be ignored, nor false assertions made. "He succeeds best who brightly illuminates his work by the lamps of Truth, Power, and Beauty; if the *first* is at all dimmed, the others will be more than correspondingly darkened."

It is necessary for us, in reply, to prove beyond all question that the circular curve does exist as a line of motion among the celestial bodies; this done, and his whole superstructure, statues, ships, water-cart horses, etc., is completely demolished. If heavenly bodies have circular orbits, then, according to Mr. Hogg, the circular curve is a curve of motion, and, consequently, must be flowing, graceful, beautiful; precisely what we claim for it.

We think Mr. Hogg misunderstands us. While we speak of *compound* circular curves, he refers to semi-circular arcs, judging from his allusions to ships and statues.

He misrepresents us by quoting us as saying, on page 299, July number: "It (the circular curve) can be made to pass through any point," etc. We said, "It (the circular curve, compounded of different radii) can be made to pass through any point," etc. Black and white do not differ more than the misquotation and the true one.

How Mr. Hogg can assert that the circle is not a "curve of motion" we can not understand, when it is one of the four curves in which a satellite of the sun can move. Newton proves in the "Principia" (Book I., Prop. 11, 12, and 13) that the path of a planet affected by the power of gravity will be one of the conic sections; and in the 2d Corollary to Prop. 13, he expressly includes the circle among the conic sections.

The orbits of two at least of the heavenly bodies are not only "in the nature of circular curves," but are actually circular, as far as has been ascertained by the delicate astronomical instruments now used. These are the satellites of Jupiter, Nos. 1 and 2. The orbit of the planet Neptune is very nearly circular, the eccentricity being less than one per cent. of the semi-axis major. The orbits of Mercury, Venus, the Earth, and Saturn are gradually approaching circles.

"The axis of the Earth," says Herschell, "it is true, remains unaltered, but its eccentricity is, and has been since the earliest ages, diminishing, and the diminution will continue till the eccentricity is annihilated altogether, and the Earth's orbit becomes a *perfect circle*."—Herschell, p. 413.

It is needless to multiply proofs on this point; those who desire to follow this

subject farther are advised to consult any of the popular elementary works on astronomy.

"True lines or curves of beauty," says Mr. Hogg, "are those composed of the various curves of motion," and we agree with him exactly.

We assume the position that curves of motion can be *practically* laid out for ornamental roads by using the elements of the circular curve, which is also a curve of motion, and that, when a circular curve is properly compounded of different radii, no eye, however accurate, can distinguish between it and the curve it is intended to represent. To execute the field work necessary to lay out a mathematical elliptic or parabolic curve, independent of their foci, involves more labor and calculation than any but a first class fool would care to pay for. The elements of the circular curve are the most simple; and that curve and all its combinations can be more readily and rapidly laid out than any other, not excepting the guess-work curves of the gardener.

Our object is to so simplify the field operations in landscape embellishment, that curves of acknowledged beauty may be traced in the easiest and quickest manner, and that shall not involve the use of expensive instruments, nor the necessity of abstruse mathematical calculations.

We have stated that compound circular curves are *practically* identical with any curve of the slightest use in landscape embellishment. We will go still farther, and assert that the compound circular curve can be made to coincide so exactly with any other curve, that if both be laid out on a large sheet of drawing paper, and one be superimposed on the other, no difference could be detected except by a powerful microscope. We do not say, but, on the contrary, distinctly deny, that the circular curve, or its combinations, is mathematically identical with any other curve; and we also deny most emphatically that any person can walk or drive over an ornamental road, and show which portion of said road is laid out with elliptic, parabolic, or other mathematical curves, and which with compound circular curves.

The combination of curves is a matter of taste; like words or sounds, or colors, the manner in which they are put together will indicate the talent that controls them. It is possible, as we have said in previous articles, to make a combination that will be destitute of grace and beauty, and positively disagreeable to an artistic eye; and it matters not whether the curves used be circular curves or otherwise.

We said the circular curve was adapted to the safe passage of heavy and rapid moving bodies. In the report of experiments made on the New York and Erie Railway in 1855, a train of 100 loaded freight cars, weighing, with engine, etc., 3,530,000 pounds, or about 1765 tons, was run forty-three consecutive miles on the Susquehanna Division at an average of twenty miles an hour, including four stops, from one third to one half of which was over circular curves. The time

made through the reverse curve at Cameron was ten miles an hour.\* Is it not splitting very fine hairs to say that an ornamental road laid out on a circular arc is not adapted to the passage of rapidly driven vehicles?

The remarks on the sphere we do not precisely understand. Admitting there is no example of a perfect sphere in nature, we could not quote a section of a sphere as a perfect circle; but as the form of the earth is an oblate spheroid, that is, a solid generated by the revolution of a semi-ellipse around its major axis, every section of an oblate spheroid at right angles to the axis must be a perfect circle; we therefore give this as an example.

The tendency of a body traversing a curved line is to fly into a straight line or tangent, when all centripetal and other attractive force is removed. We, therefore, consider it better to pass from a curve to a straight line, and from that straight line on to the reverse curve, or else make the degree of curvature on both curves as slight as possible at the point of reversing; the line is more beautiful and the motion easier. Contrary curvatures are the most beautiful when their radii are equal, and the most graceful bends, says Mr. Hay, are those in which two ellipses touch at points having the greatest equality of curvature.

We thoroughly understand the practical values and beauties of the elliptic and parabolic curves, and constantly make use of them in our practice; but whether they are more beautiful than the circular curve is merely a matter of taste. Mr. Alison, in his Essays on Taste, thinks the circle the most beautiful; Mr. Ruskin thinks it the least beautiful of all curves. We think the right curve in the right place has the most beauty.

Unless the eye be exactly in the axis where the circle can be seen as a circle, which is almost an impossible case, as far as an ornamental road is concerned, "perspective," says Mr. Garbett, "makes it appear elliptical or hyperbolic." It would thus seem that if the circular curve is objectionable, its appearance must be, except from one point, the perfection of grace and beauty.

That vehicles should delineate natural, and therefore beautiful lines, depends altogether upon the horse and his driver. The best drivers find it sometimes impossible to make a young horse follow any regular line, and the natural instinct of a well-broken horse, on entering his master's grounds, is to take a straight line to the stable. We therefore find, in most country places, the turf edged by wheels, where horses turn too sharp to get the straight direction.

The principal drives of the Central Park are grand in their conception and execution. Their width is such that numerous beautiful curves might be traced by vehicles, and not be parallel with the border. We know that every curve described by all the heavenly bodies can be laid out through their entire length, and yet be confined to the gravel.

\* The experiment was not made for the purpose of testing safe speed, but to ascertain the comparative cost of moving freight.—*N. Y. and E. R. R. Report*, 1855.

As to the water-cart horses, we would suggest that their instincts be discouraged and their tastes educated. We should like to buy, and will pay a high price for a horse, or any other animal, that can delineate an elliptic or parabolic curve.

In this intelligent age, it is folly to write down the results of civil engineering, a profession whose limits have not as yet been defined, nor can they by any possibility be kept outside the field of art. As long as civil engineering covers the arts of construction, it must include the arts of design. Proportion, harmony, light and shadow, and other artistic appliances, must be thoroughly understood by every engineer who seeks a prominent position in his profession. Our practice of it carries us into the highest walks of art, and we presume to say, after thirteen years' practical experience, that a first-class civil engineer must necessarily be an accomplished architect; he must understand every principle of construction, and the value and strength of every class of building material; and unless he be content to copy others, he must be familiar with the principles of design; but the fling at the engineering profession falls short in its aim at us. Our education as an artist is thorough and complete, and equally so as an architect and a civil engineer. We have served our time in every grade of the three professions, and have found them indispensably necessary in the pursuit of the profession of Landscape Adornment. We attribute our uniform and gratifying success to the ground work so well and thoroughly laid.

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### THE LIBRARY.—I.

BY S. L. B., BROOKDALE FARM, ME.

In the plans of country residences which appear from time to time in the *HORTICULTURIST* and other rural journals, there is often a room marked as the *Library*, which presupposes the owner to be possessed of a collection of books, and that he desires a place for them. But, aside from the fact that this apartment has its assigned corner in the general plan, little is said of it, and one would infer that its importance, as compared with the other rooms, or with the surroundings of the dwelling, was of small account. Believing that it deserves more attention than is usually given it, and that its consideration is one of those topics which properly comes within the scope of a work "devoted to Rural Art and Rural Taste," and with the hope that one or two articles upon the subject can be made interesting, the writer proposes to speak of the library of the country residence.

Books are an indispensable accompaniment to every well-ordered house. They are silent friends that instruct us at our leisure, and by the fireside in winter, or under the shade of summer trees, they are the same true companions, wise counselors, and gentle friends. And there is a closer connection between books and the library, and out-of-door life and pursuits, than may at first be supposed. The

well-kept lawn, and the naturally arranged grounds without, speak of the library within ; the flower bed gives evidence of the book-shelf ; and it is not often that an estimate of the one founded upon the other, fails to give the above mentioned results. The labors of the gardener and the work of the horticulturist are aided and directed by the experiences, practices, and observations of eminent men, who have recorded their knowledge in books ; and having them for guides, the novice can soon be master of the art, in a degree at least sufficient to enable him to work with correctness and industry. The physician consults his books, and by this means—by the cases there stated, and the rules laid down—he is prepared to give advice or to apply the knowledge gained to similar cases which come within his practice. The country resident is similarly placed. He consults his books, they direct his labors. If he stumbles or falters, they assist his plans. When the day's labor is over, they are ready, with their stores of accumulated wisdom, to minister to his enjoyment, and furnish him with an amusement at once a source of instruction and a high intellectual pleasure.

This much having been said, as a sort of preface, let us enter the door of the library room. Its size should correspond with the wants of the occupant, and the general arrangement, extent, and character of the whole dwelling. It may occupy a retired part of the house, and that part which commands a less extensive and commanding view of the grounds ; for, as its greatest attractions are within, and as the highest source of its pleasures are to be found in its delightful volumes, so less regard to outside views can be had, and its position in the plan of the house placed in accordance with this design. The room may also be occupied, at times, as a family sitting-room, if the extent of the dwelling is not such as to admit of a room for the purpose of a library. The finish of the room should be plain, not elegant. A table or desk for writing, two chairs, a sofa, and cases for books, are the necessary furniture. Leaving a general description of all but the latter, to be decided by the taste and means of the owner, a few words will be said about book-cases.

There are various forms and sizes in which these can be made. If the library is somewhat extensive, a good plan is to have a separate case for each general department. If this plan is followed, such cases should be finished into the walls, the dimensions to be regulated by the number of volumes in each department, but more by the space allowed for them between the windows, doors, etc. They should extend down to within three feet of the floor, and up as far as necessary to correspond with the proportions of the room. If the size and position of the room do not allow cases of this description, there can be a larger case occupying that part of the room remote from windows or doors, and being of sufficient size to accommodate the entire collection. If made in this form, there can be drawers or small closets occupying the lower part of the case, and they will be very useful for storing pamphlets, unbound papers, and other matter which is worthy of preservation. We

doubt the necessity of having doors to the cases, although, as a general thing, book-cases have doors with glass corresponding to the width of the shelves. They look well, but are, nevertheless, inconvenient, and should be abandoned; besides, books look much more inviting when not shut up in a close case. Dust *will* accumulate, and glazed doors are not an absolute preventive; the work of dusting and arranging is also far more easily accomplished without, than with them. If ornament is not desired, a good plain case is made by having each shelf independent of itself in the form of a box, with handles at each end for removing them, and placing them upon each other. An advantage of this plan is, that in case of fire, each shelf can, with its contents, be immediately removed, and thereby saved, when in other cases they would be consumed. Doubtless, a book case constructed in this way can be made ornamental, although it does not generally admit of so much finish as other forms.

The wood of the White Cedar, (*Thuja occidentalis*), although it is difficult to be obtained of any great size, is the best material for the construction of book cases, as the peculiar odor is offensive to moths, which often seriously infest large collections of books. Next to this, Black Walnut, and Bass or Linden, are the most desirable.

[A most important and interesting subject, too much and too long neglected. B. treats the subject in a manner calculated to invite attention, which we hope it will receive. A good library is an inestimable treasure. We hope B. will continue *in extenso* a subject so well begun.—ED.]

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### THE COLD GRAPERY.

BY THE EDITOR.

WHEN we began our Hints on Grape Culture, it was feared by some of our friends that so much prominence given to the vineyard would have the effect of checking the increase of graperies; but we had seen too much to participate in any fears of this kind. The event has fully justified our anticipations; for while the number of vineyards, large and small, is rapidly increasing all over the country, graperies are multiplying without precedent; and this, too, in the midst of a desolating civil war. We have on the board at this moment more plans of graperies than have been called for during any period of our experience. We find, too, that what is true of our individual experience, is also true as a general thing. We take it for granted, therefore, that the proposition we laid down, that the increase of vineyards will beget an increase of graperies, holds good, and will continue to hold good, for some time at least. It must be so in the nature of things. There need, therefore, be no jealousy on this part of the subject. We may state here, that it is no uncommon thing for us to receive applications for a vineyard

and a grapery at one and the same time from the same party. If any of our readers should have conceived the idea that we have any prejudices against grape-ries, they are laboring under a great delusion. We have repeatedly declared the grapery to be one of the chiefest luxuries of life; one, however, in which the great mass of people can not indulge. For the latter, and for all, indeed, we have the vineyard, within the reach of every man and woman who owns a rod of ground; an enduring source of pleasure, health, and profit. He who can indulge in both is doubly happy.

Our thoughts have been turned in this direction by repeated and persistent applications for information about the grapery; and we have therefore determined to give an occasional article on the construction and care of graperies. Many of these applications refer to the cost of a house, in regard to which there exists a great many crude notions. So much has been said and written about cheap grape-ries, that not a few have come to the conclusion that they can be built for about the sum that will put up a good wood shed; and their conclusions, we must add, are fully warranted by some articles that have been published on the subject. We know of one very cheap house that has figured largely, and done its share in creating this misapprehension; but the house is not yet half built, and its cost, therefore, is a matter of mere guess work. We venture to say, that when it is done, it will not be worth the money spent on it. Many other so-called cheap houses are open to the same criticism. Some of them are said to have been built for sums that would not, in fact, cover the first cost of the material. Some of these cheap houses are built during periods of leisure, by hands on the place, and no account is taken of the labor; and, under the circumstances, it would not be possible to estimate it truly. There is consequently connected with many of these cheap structures a degree of fallacy which makes them altogether unreliable as criterions of cost; and we hold them unreliable in most other particulars. But the first cost of a house does not necessarily prove it to be cheap; we suppose this will be admitted by most persons who have had experience in building. The expense of keeping such structures in repair in a few years exceeds their original cost. We can see nothing about them to commend them, especially to a poor man; they are mere sheds, and nothing more, and quite unworthy of being dignified with the name of graperies or green-houses. There may be some excuse for erecting them on leased property, but none otherwise. They are objects of the falsest kind of a false economy, and deserve no encouragement whatever. It would be infinitely wiser to add to their first cost, the money spent in their annual repair.

There is another class of cheap houses deserving of more consideration, and in reference to which the word *cheap* has some meaning. These are built mostly of good material, but cheaply put together. Walls are dispensed with, the stuff is unplaned, and whitewash takes the place of paint. They are more lasting than the first named structures, and may be made to take on some degree of tidiness. Though costing more than the first, they are really much cheaper, as the "incident-

al expenses" will show in a very few years. They have this advantage, that they admit of some degree of architectural taste. Located in some inconspicuous spot, they do very well for a man of moderate means; but they should find no place on the grounds of a man of wealth, for they constitute an impeachment both of his wealth and good taste.

There is still another class of graperies, which, in our estimation, are truly cheap. The material is good, well seasoned, and planed; the foundation is of brick or stone; the frame is securely put together, and properly braced; it has architectural taste and beauty, but there is an entire absence of unnecessary ornament. There is nothing about the house that is not really necessary for its strength and durability. A house of this kind may take its place any where, even on the most elaborately finished grounds. Its beauty consists in its proportion and harmony of parts, and it may at any time be elaborated with ornament to any degree that wealth or good taste may suggest; the latter, however, will suggest very little in the way of ornamentation.

There is still another class of houses which are decidedly *not* cheap, either in their first cost or annual repairs. They are very numerous, but need not be particularly noted at present.

In another article we propose to examine the relative cheapness of these different houses, giving the facts and figures. We have put up a good many, and have more under way, and our statements will therefore be more reliable than the sporadic cases occasionally presented to the public. We shall endeavor to present the subject in such a way that the reader may determine for himself which is really the cheapest kind of house. We expect to convince him that cheapness ceases just at the point where durability is ignored.

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### PEARS IN POTS.

(From the German of Diel.)

WE give this month another extract from Diel. His treatment of the Pear is less elaborate than that of the apple, but is by no means devoid of interest. His views in the main are sound and practical, though we do not endorse every thing he says. His remarks are as follows:

ALTHOUGH every pomologist knows that many varieties of the Pear set fruit much easier and earlier than apples, especially Buerré Gris and Beurré Blanc, and nearly all kinds of Bergamotte; as, for instance, the very fruitful and excellent Bergamotte Cadette and many others, the quince tree is so generally accepted as the proper stock for dwarf pear trees, that experience may be said to speak too loud against seedlings. I have myself seen many pear pyramids on seedlings, which bore abundantly, but has every amateur gardens like those at Harbke,

that the size of the garden, with the size of the pyramid, may melt away in proportional harmony?

Von Münchhausen holds then, with much justice, that a careful selection of seedlings from weak-growing varieties, in which Plenne believes to have discovered the secret, is still very precarious, and likely to disappoint. If, therefore, you do not want to have in a private garden of perhaps only half an acre in extent, pear pyramids, that might be taken for fir trees, the quince remains our only refuge, to obtain beautiful dwarf trees of the so highly-prized pear, that will soon bear, and whose size will be proportionable to the common size of private gardens.

From this it is clear that the quince is absolutely necessary for pot trees, for its capacity of root has so much similarity to that of the paradise apple that it may be in the same degree enlarged and checked to maintain the trees for a long time healthy and fruitful.

The quince holds the middle between a shrub and a tree. It grows slow and has no tap root, but only strong bracing roots, which grow slanting down in the ground, and besides a forest of fine feeding roots. Because of the absence of a tap root it can never be used for full standards. Every gale is their grave. But they make half standards, which by their shape, like large orange trees, are as magnificent as they are unsurpassed in fruitfulness.

Its propagation is by suckers, which in nurseries are multiplied a thousand fold by art. To propagate it by cuttings is, as with the paradise apple, hardly worth the trouble.

The sucker of the quince, then, is the true subject for pears in pots. The beauty of the pear tree in the pot surpasses that of the apple tree by far, by the exquisite glossy green of most pear trees; only the latter bears generally more abundantly, but the pear tree blossoms the more richly.

Ordinarily quince suckers have originally many fine feeding roots close under the surface of the ground. These are, as with the paradise stock, cut back, and the main root left only three inches. Often this is originally not even so long. If we plant such a sucker in moist, somewhat shaded ground, where the sun shines only half of the day, it makes, in one single season, a whole forest of roots, and requires no second transplanting to prepare it for the pot.

The most suitable mode of grafting the quince is budding; but because of its great abundance of roots it is still less suited to be potted before grafting than the paradise stock.

The quince tree becomes easily cancerous when wounded. A phenomenon that might almost be set down as a law of nature for all shrubs that propagate themselves by suckers. Therefore, when quince stocks have been budded it is a very necessary precaution, not, as many gardeners are in the habit of doing, when cutting off the stock in spring, before the bud pinches, to leave a few inches of the stock above the bud, but to cut it off slanting, close to the bud. If this is neglected we have not only to wound the tree twice, but the stump left often dies down in the

shape of a triangle below and opposite the bud, so that we must be a long time healing the damage, or have a crippled tree. Nevertheless, this procedure is as common as it is unpardonable. Not a single reason can be found to justify this method, and the first growth of the bud must thereby even necessarily become crooked. Van Wilke denounces this practice with all justice.

Budding the quince for pot trees should be done as near the ground as possible. As general as this rule is in any case, because the quince stock must always come entirely in the ground, it is still more necessary for us, because we can not plant the tree more than three to four inches deep in the pot. Some varieties of the pear, however, do not succeed well on the quince. This is the common testimony of all books of instruction. Some pine away on it, as, for instance, Bon Chrétien d'Auch or Beurré Doré sans Pepins, Bon Chrétien d'Eté, etc. Of some it is said the fruit becomes stony, and some are said not to take at all on the quince; for instance, Rouselette d'Anjou. As a general maxim, it has been set down, that the following three classes of pears are not fit for the quince. First, all those that are naturally apt to be stony. Secondly, all those of which the flesh is not juicy; and thirdly, those with short, crisp flesh, (chair cassante.) The belief is, that when pears with the above qualities are grafted on quince, their natural faults are made worse. On the other hand, it is also generally conceded that all juicy, buttery pears, (beurrés,) and all bergamottes are well suited to the quince.

In all these dogmas, however, as in many other things concerning pomology, there is much that is one-sided, uncertain, and evidently contrary to experience. But from this uncertainty, experiments with trees in pots might relieve us speedily, and with ease and certainty. Here we have the same soil, exposure, and moisture under our control, and without any deceit the truth would soon appear whether the quince stock changed a pear only accidentally or essentially, and what kinds languish on it or do not live at all.

Many pomologists defend the quince, as I do myself, from manifold experience. But to be quite sure of the quality of a pear, and yet to use nothing but quince stocks for my pot trees, I proceed, since a few years, in the following way: I bud small quince stocks with the White Butter Pear, (Beurré Blanc,) which never fails. On the shoot of the Butter Pear I graft, at the proper height for a pot tree, those varieties whose nature is yet unknown to me, and may so be sure to learn their true qualities. This *mediator* is, in fact, the very best means of correcting the too heterogeneous sap of the quince for capricious pears. By this artifice we are therefore enabled to raise all varieties of the pear on quince, and soon to enjoy an abundance of their fruit.

This so-called *double grafting*, little as Hirschfeld, without having tried it, is in its favor, deserves certainly further trials, even if we gain nothing by it, but to have it in our power to raise *all* varieties of the pear, in their natural qualities, on the quince, and so to curb their growth, which even in the feeblest seedling will

be much more impetuous. If Epargne, Bon Chrétien d'Eté, Orange Tulipée, etc., are grafted on Sucre Verd or Beurré Blanc, which are budded on quince, they make the finest and most fruitful dwarf trees.

Of the quince we have two distinct species—not merely varieties—the pear quince and the apple quince. They are distinct by their fruit and foliage. According to my experience, the apple quince is not well suited as a stock for the pear, and it may be that many complaints are founded in the fact that both kinds are indiscriminately used. It is well settled that the pear quince of Portugal is the best for stocks; the pear, however, succeeds also admirably on our common pear quince. The French call the latter the *female*, the apple quince the *male*.\*

Pear on apple does not succeed, and still more foolish would it be, possessing the paradise stock, to graft the apple on the quince.

Since last year, (1799,) however, I have by accident been led to make experiments, which, perhaps, merit the full attention of pomologists, and which, I would beg every one to imitate, in order soon to arrive at a certain result, namely : *to graft the pear on the paradise stock.*

I received from a friend several apple scions, and by mistake pear scions with an apple name. The pear scions looked strange to me, and in this uncertainty I grafted two paradise stocks and two pear seedlings with them. As soon as they pushed, I saw that they were certainly pears, but I was astonished to see them take so well on the paradise stock.

The idea that pears, especially the coarse stony kinds, must be much improved on the sweet paradise stock, quickened the desire in me to make more trials with them. This spring I have therefore grafted eight paradise stocks with Colmars, Passatutti, Volkmarser, and Prateau Gris. All thrrove admirably, and the two trees of last year, with the unknown pear, have now (July) such crowns, that I can put them in pots next spring, when I shall soon see the result.

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### GRAPE ENTOMOLOGY, ETC.

BY PRATIQUER.

I THANK my old friend, Mr. Reid, for coming to my rescue at a time when I had to spend, not a single hour, but every hour of daylight in my vineyard. He also is a Pratiquer, and I take much pleasure in reading his articles in the HORTICULTURIST. Dear Mr. Editor, I hope you do not intend to give up your Hints on Grape Culture. Positively I shall drop my subscription to the HORTICULTURIST if you do. I would as soon be without cream in my coffee. No, no, don't; not

\* Nouvelle Maison Rustique, vol. ii., p. 148.

that I love Pear culture less, but that I love Grape-growing more, and these little short (too short) hints make me feel willing to overlook all shortcomings in your ever welcome monthly. Where are your promised Entomological articles? Do give us grape entomology: which of the insects is hurtful, which friendly? Why the Pennsylvania proverb, no rose bugs, no grapes? I like proverbs, especially Solomon's, sincerely believing that he was really a wise man, in some things; but I like to understand their application. I have learned by experience that the rose bug destroys the grape blossoms, and will prevent a crop; last year I had the satisfaction of pinching upwards of eleven thousand of them on a small grape patch, and this season had not as many score, which I pinched with equal pleasure. They also injure the leaves of the vine. The steel-blue beetle is an enemy, boring the buds, which decay without breaking into leaf, and this includes leaves and blossoms.

I know that the lady bug is a friend, but what are the snapping bug, the large brown beetle, the blue-green rose bug, the same size and general appearance of the steel-blue beetle, coming two months later; the ink bug, the lightning bug, the fetid bug, and the squash bug? What insect is it that heads in the tender shoots, cutting them square off, except a little piece of the outer bark by which it hangs? What good or evil does the black aphis to the tender ends of the grape? What insect causes the swelling on the Delaware leaves? We are on the threshold, and have every thing yet to learn. I have heard of a currant-like parasite on the Delaware and Clinton grape, but have never seen it. Can you describe it?

It is rather early in the season to describe grape experience for 1862. In 1858 I set out many different kinds of grapes, obtained at high cost, and the plants were highly attenuated; some of them I should think were the twentieth dilution. This is my fifth season. Dianas, Concords, and Hartford Prolifics have recovered, and now cover the trellis, and show perfect gems of fruit. Delawares of same season, price \$5, come up to the third wire, and show some fruit. To-Kalon nearly the same. Rebecca and Anna very feeble, not reaching the second wire. They have all had the same treatment. I have Delawares of my own raising from buds under glass the last season, which promise another year to surpass their older namesakes, planted in 1858, and growing in the same ground; the difference is, that my own roots were very fine; those that I bought very feeble. The only really good grape roots (except Isabella and Catawba) which I have had from abroad, fit to set out in the open air, was the Creveling you sent me—an honest root, put up, I doubt not, by an honest man, and it is doing credit to its producer.

[Thank you for your good opinion of our humble Hints on Grape Culture. The scores of commendatory letters that we have received in regard to those brief articles are more than a sufficient inducement to continue them to the end, and we shall do so. The articles are doubtless too short, but they are made so in obedience to a popular clamor, the good sense of which we have never been able to

perceive. They have all been written just as they were wanted, and without forethought; and just as we get warmed up it is time to stop. Very short articles on most subjects are the veriest trifles, so far as communicating any amount of sound knowledge is concerned. We have not forgotten the Entomology of the grape vine; that will come in due season. In the mean time we treasure up your suggestions and all others that we receive, and in this way hope to make the subject as perfect as may be. The lady bug and the lightning bug you may spare, but all the others you name may be introduced to the familiar acquaintance of your thumb and forefinger.—The little globules referred to are not peculiar to the Delaware and Clinton. You will find them on vines in common, especially in your grapery. If you look, they can scarcely escape your eye, though they are not much like currants. Grape culture has been much retarded by the sale of poor vines. Having raised good ones yourself, you can judge to what extent this cause has operated. The Creveling we sent you was put up by Mr. Goodwin, of Kingston, Penn., and he must have the credit of it. We know it to have been good. Do not keep silent so long again.—ED.]

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## HOW NOT TO DO IT.

BY BOG MEADOW.

GRAPE culture is no abstruse science, but no one can expect to produce crops of this fruit without labor and care. After the vineyard is set out and arranged, and is ready to return, some fifty, some a hundred fold, the cultivator in many instances begrudges the amount of labor requisite to produce a crop of corn, worth perhaps in market one-fifth the grape crop; but so it is. As I ride about the country, I see so-called vineyards growing up with grass and weeds, the vines running on the ground, or upon poles or trellises without care; neither pruned nor pinched, making long, slender shoots (not arms) on the ends of equally slender growth of former years. This carelessness is unpardonable. "Do men expect to gather grapes from thorns?" They might as well; for well-cultivated thorns will produce *nearly as many* grapes as well-neglected vines. It is painful to see and hear the excuses among the owners of such patches (I can not call them vineyards) of grapes. All mean to do it; but one has his corn to plant or to hoe, his hay to make, his potatoes to dig, and his crops to gather, and so he neither prunes and lays down his vines in the fall, nor ties them up or digs around them in the spring; the ground is not plowed, the laterals are not pinched, and, finally, the fruit is not gathered, for there is none. Now, common sense ought to teach every man, that after he has expended his money to buy or cultivate the roots, prepare the ground, set stakes or erect a trellis, his money is wasted unless he does a little something more; and a man who will not do that something more

brings disgrace upon the profession, and virtually informs the world that the culture is a humbug; yet there are enough who know to the contrary. There are those who really love to cultivate the grape, "to whom the pleasure is as great of being cheated as to cheat," if it is a fraud. Some persons may thus neglect the culture of their grapes from ignorance; the remedy for them is to take the HORTICULTURIST and *read it*. Homœopathic doses will cure this disease. An ancient writer informs us that neglect is no new feature, for he says, "I went by the field of the slothful, and by the vineyard of the man void of understanding, and lo! it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down."

[We have seen too many so-called vineyards not to know that the picture drawn by Bog Meadow is only too truthful. We can and do sympathize with a poor man who, under every adverse circumstance, and with limited means, is trying to establish a little vineyard that he may call his own; but Bog Meadow does not refer to such. He has in his eye men who can find plenty of time to cultivate their corn and potatoes, and yet, for some unaccountable reason, neglect their vineyards. They deserve to be scolded, for their neglect entails failure, and this greatly retards the progress of grape culture. It may be doubted whether a man has a moral right to enter upon such an enterprise unless he means to give it such reasonable attention as will insure success. We hope all the vineyards will be put in good order before we make our summer tour, so that we may say a pleasant word for all.—Ed.]

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### REJUVENATING OLD HOUSES.—No. III.

BY MYRON B. BENTON.

AT your request, Mr. Editor, I have hit upon a fruitful theme, and I am making my subject longer than I expected.

With regard to the arrangement of the rooms, I believe I have before referred, somewhere in the HORTICULTURIST, to the annoyance of not having the view from one room to another cut off in certain cases where desirable. There are some rooms of a house that it is pleasant to have brought together, and the view as complete as possible between them, as parlors, libraries, etc. On the other hand, it is not desirable to have the whole of a bed-room on the first floor exposed to sight merely by opening a door into the living-room; thus commanding a view, perhaps, of the bed and its occupant. Nor is it necessary to have the doors through the interior of the house in a line with each other, so as to open a vista through, when they happen to be open, from parlor to sink-room. And these are troubles that are easily remedied or avoided in repairing or building. Place the doors in such position that they will not *range* with each other; and those opening into

pantries, bed-rooms, etc., so situated that they will expose only a small portion of the interior of these rooms.

For the color of the exterior of the house, the modern reforms are hardly less objectionable than the old-fashioned white. The change in public taste has given rise to a variety of hues very disagreeable. If white is too glaring, there is nothing gloomy about it; and it is sometimes, when the house is very thickly shaded, not to be discarded. But many of the shades to which it has given place in late years are far too dark, and thus lack an appearance of cheerfulness. While a house-paint should be light, it should be sufficiently removed from white to have a decided tint. Too many used are so near white as not to have a character of their own. Though it have a clear, unequivocal hue of its own, it should still be among that class which are called "neutral tints." Blue, green, yellow, and red, in however light shades, are never so agreeable as the tints produced by various mixtures of these colors. To my own taste there is nothing better, especially for an old house, than a russet—the color of a ripe russet apple. Show your painter the warm, golden cheek of a Roxbury Russet, and tell him to follow that in mixing his pigments, and if he is a good imitator, you will not fail to have a cheerful and every way pleasing complexion on your house. The corner-boards, casings, etc., should never be white unless the whole be so. This in variety breaks up the harmony of effect in the whole, and, in fact, gives the covering of the house an appearance of patch-work. The trimmings should be of the same tint as the rest of the house, but of a different shade; generally the darker is preferable.

There is, to my mind, one very prominent fault of late years in building, especially in the more expensive class of houses, but one that is generally regarded as quite the opposite of a fault. There are often too many verandas, porches, etc., added to a house. The only limit seems to be the length of the builder's purse, the only question arising being that of expense. It never seems to be imagined that the addition of another veranda may be a detriment to the beauty and comfort of a house, instead of an advantage. The cost of these structures is well known to be great, and they are also the most perishable part of the building. It is not uncommon to see a house cramped in its exterior accommodations, yet almost surrounded with verandas. And, setting aside the question of economy, when there are too many of these additions they are an encumbrance. No room which is to be much occupied should be without a part of its windows opening directly out-doors; not shaded even by a "hood," but receiving the perpendicular rays. This is essential both for health and convenience. A room lighted wholly by horizontal rays is a very unpleasant one. They are not so essential to appearance as is generally supposed, provided the surrounding grounds are well laid out. Sometimes a trellis, erected at a very trifling cost, and covered with a grape or other vine, will be quite as pleasing. I would not, however, be understood as objecting to structures of this kind in the right *quantity*, only they should not be made to absorb too large a share of the builder's money, or too much of the light of the sun.

In fact, there is no part of a house, not among the absolute necessities, more desirable than a few verandas or porches.

[Mr. Benton's remarks on the color of houses are sensible: we are always running into extremes. We know of a thriving place in which the first two houses were painted of an unexceptionable color; indeed, in the best taste. Many have since been built, but no two of them painted alike; they are striking simply from their oddity, and are a good illustration of Mr. Benton's remarks. We agree with Mr. Benton in his objections to a multiplicity of verandas; some houses are almost lost in them.—Ed.]

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### INTERIOR VIEWS. No. 3.—EXOTIC GRAPERIES.

BY FOX MEADOW.

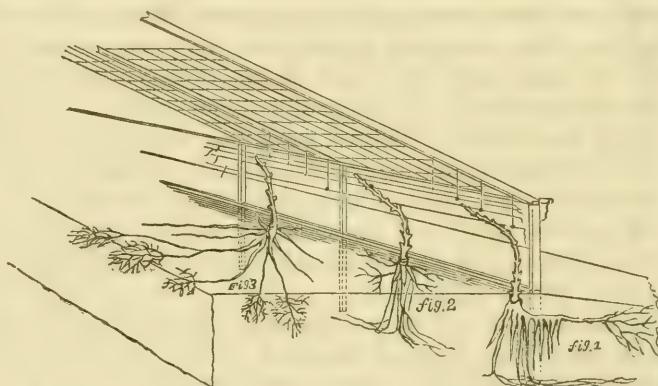
In our last paper we endeavored to show the reader that the natural results produced by our conventional system of practice and education, in the use of the two classes of vines, good and bad, or, in other words, strong and healthy, and the debilitated constitutionally; and that both classes ultimately would be in the possession of strong, powerful roots, one as the other, the difference between poor vines and strong ones being, that in the former case, the roots, when they issue forth from the plant, go direct to the bottom of the border; and in the latter case, travel immediately through and out of it. A mere superficial view of this *quality* in the two classes of vines may lead the reader to infer, that if poor, debilitated vines will ultimately produce as strong roots as strong and healthy vines, that this question of *quality* would be quite immaterial. If such an impression should be presented to the mind of the reader, we respectfully refer him to our last paper, where the difference in growth—*when* growth commences—the ripening of the wood of the first season's growth, and the power of bursting vigorously into new growth the second year, is fully shown. We stated further, that vines having poor roots when first planted, those roots remain for several years in nearly the same condition, "are never resuscitated, and die ultimately." Now in reading over the last sentence when in print, we find we have not explained the cause *why* poor roots die ultimately, and this is nothing more than making an assertion without a proof. Now let us see if we can prove this assertion to the mind of the reader. It is a very important point in cultivation, and will be found to be the *key* which unlocks the door of a very dark room.

We have all read the directions in horticultural books, how to plant vines. We are told to shake the roots out, and evenly and regularly spread them out on the surface of the border; and to improve the root power of the plant, many authors direct that a portion of the cane shall be placed under the soil as well as the roots. Now the object of layering a portion of the cane is evident to all gardeners at

least—an increase in the number of roots? Now who can have any objection to this method of inducing more roots? Your humble servant, "Fox Meadow," has, in the *way* it is done. Now let us examine the movement of the vine, and what its actions are, as soon as it gets planted. First, we shall be careful in preserving what roots the young plant may have, and then we carefully spread these roots evenly and regularly on the border, at the same time layering that portion of the cane which is not required for the inside of the house, one or two buds of this cane being all that is requisite to be seen in the house, and from which is to come forth the new wood or shoot. The vine commences its growth, the sap begins to circulate, and the roots that were so carefully spread out on the border, push forth their little thread-like feeders, and the more these little roots collect, the quicker is the sap circulation. But this sap finds an impediment in its circulation, (downward;) there is an *angle* formed in the stem just under the ground, and this angle was formed when the vine was planted, through the necessity of having those one or two eyes above ground, from which was to issue forth the young cane. We have called that *angle* an impediment, but "authority" has taught us that that impediment will cause the bursting forth of new, strong roots, and we must say that authority is correct, for on this principle do we succeed in rooting a host of evergreens, as well as deciduous trees and shrubs. Now, we do not want the reader to lose sight of the original roots of the vine, as it was turned out of the pot, and spread over the border, for they are growing a little, and we wish you now just to look at the *under* side of that angle in question, and there will be seen some purely white protrusions; none can be seen on the *upper* side of this angle, and they are only seen on the under side where that portion of the cane forms the bend. In a few days' time these white protrusions grow out into strong, powerful roots, and drive directly *downward* with increasing power and strength. It is truly wonderful the size that these roots will attain in one summer's growth; we have found them nearly an inch in diameter. Between these roots which are produced from the angle in question, and the young cane which is being formed, does nearly every particle of the circulation of the sap become restricted. The principal flow of sap is always through the largest channels, and rapid currents will always necessitate their permanent maintenance.

The reader will now most probably see *why* the original roots of vines (if poor) are never resuscitated, and why they ultimately die off altogether. These large tap-roots being formed by our would-be cleverness, brings the circulation nearer home, and the consequence is, that the original roots are thrown out of communication with the leaves of the plants, and, consequently, they ultimately die. Fig. I will illustrate this action of the roots as we have found them five and six years after being planted. We have often layered three and four feet of young cane in the border when first planting the vine, but have never yet found that the cane ever emitted roots worthy of notice *between the original vine roots and the angle formed by the process*; the principal strong roots are invariably produced from

the angle, and thus *severing* the communication from those immediately behind them. Now if poor vines are not layered in the manner described, but planted *erect*, poor roots will always die, because, as we have previously stated, the plants being no better than cuttings, will, like cuttings, issue new roots just *over* and *above* their original roots from their woody stems, and drive directly to the bottom of the border, as do those issued from the angle just alluded to. Fig. 2 will illustrate the root action of poor vines when planted erect, or without being layered. We affirm that a strong vine, with a plentiful supply of large, living roots, containing their proportion of organized matter to the top such roots have produced, thoroughly well ripened, and cut back to one eye at or previous to planting, *will never grow downward* if planted erect and the roots spread out in the way they are desired to grow; but they will grow *through* the border and *out* of it, (see fig. 3.)



as we have previously stated, the richer the borders are, the quicker are the roots out. We have found the roots of vines more than two hundred feet from the border in which they were planted; and such facts as these only seem to confirm the idea in the minds of many intelligent men who ought to know better, that the roots are after some wonderful and unknown elements, which their princely formed borders do not contain! Now we have shown the reader the cause why roots are carried to the outside and into poorer soils; also, why roots are caused to grow to, and are found in, the bottom of borders.

These suggestions we offer the reader (which are, in fact, practical realities derived from many years of hard toil, mixed up with a great deal of dearly bought experience) should lead him to inquire, of what use have been all the costly materials of which a very great majority of vine borders are composed? Roots that are on the bottom of a border can only imbibe the impure leechings of an unaerated mass of constantly decomposing vegetable matter; and were it not for the system of drainage, which in many cases is a *filter* into which sometimes get

accidentally, or otherwise, fresh air, these roots in question would die long before they commonly do. If the roots are then in the bottom of borders, or have grown through and out of them, it becomes evident that the expensive compounds of which such borders are formed is of no use to the plants, and that if vines grow and produce ordinary fruit with their roots out, and in poorer soils, it is evidence sufficient that crops of grapes can be produced from much poorer soils than many of us have anticipated. Now the apparent wrong in this stage of our culture of the vine, lies simply in the *kind of roots* the plant is induced to form, which are long cords possessing not much else than one gross spongiole, or mouth at its end. We have said "induced to form," because we know by experience that from the conditions by which we have surrounded these roots, they can not possibly, or naturally, produce any other formation. The reason why vine roots are long, is because the compost contains gross feeding material in every particle the spongiole touches, or traverses through. Look for a moment, and see how we have been taught to produce this result. See how the materials recommended for use are to be thoroughly hacked and hewed, turned over and over in some great monstrous heap, lying for a year perhaps, or more, before it is considered fit for use. Listen to the directions to "thoroughly incorporate" every particle of the "great whole" like so many drugs in the prescription of some noted physician in a case of life and death! Does not this wonderful work of compounding and incorporating tend to place all and every element the root may require, directly in and surrounding every spongiole or mouth the plant may produce? and under such flourishing conditions are not the roots *induced* to drive furiously onward until they are brought blindly to an awful precipice, and then hurled headlong to destruction? Are we not wonderful and ingenious men to so construct borders for the deceptive allurement of the vine's roots into a land that *don't* "flow with milk and honey," and then stand and gaze, and wonder how they got there? Does the reader now see that we, the gardeners, possess the means at will, and are really the cause of the vine producing these long whips of roots? Yes, for we would not like to insult the intelligence of this journal so much as to think for a moment that this fact was not evident to the perception of every reader. Now if your readers are convinced that we are the agents in producing a species of roots which have but one feeding mouth where five hundred or five thousand should be, then it will not be a very difficult matter for the reader to comprehend that we also can become the agents to *compel* the vine to produce short roots, with an innumerable amount of feeders to work in, and through, every particle of the soil that is placed, and prepared for them. Now if we can change the entire character of the roots from long tap-roots driving either to the bottom of the border, or, on the other hand, through and out of it, for fibrous roots, issued forth in untold numbers, feeding regularly on the compost we have made, then we shall have the satisfaction of knowing that our labor and materials are not wasted, and that we should then reasonably expect the vine, from its good feeding, to produce compensating results.

Now how are we to exchange the character of these long roots into small fibrous ones? Simply by reversing the conditions which produce the long useless ones. These conditions, of course, are the alterations of the materials of which we have been composing our borders. Some years ago, and as now, we grew a great many roses for flowering during the winter; the cuttings were struck principally in the spring, and then turned out to grow in open ground during the summer. We invariably selected the richest ground we could get in order to get strong plants for potting by the fall. These roses, however, always made strong roots and went directly downwards, so that often there was much trouble in taking them up without cutting half their long tap-roots off, and this we did not care to do for obvious reasons. Further, it was impossible to take up any of these plants with earth on them, because, having no fibrous roots, it would all fall away in digging them up. Sometimes we wanted soil to the roots, for it enables us with some varieties to get a few roses much earlier than otherwise. One season we had more cuttings than filled our piece of deep rich ground, and, consequently, had to take a piece that we did not think much of, it being more than one-half sand, the other portion being a vegetable matter analogous to leaf-mould. Now what was our surprise in the fall of the year, when these plants came to be taken up—there was not an individual rose that had any tap-roots to them! No, not one! We took flat-pronged forks, and lifted each rose with large balls of the earth, which covered the entire fork, and this could be carried to any reasonable distance in that way without parting with the soil, so numerous were the fibres that held it together. This was not the only marked difference; the plants had ripened their wood hard up to the very ends, and the wood of the whole which grew in this soil was much shorter jointed, and every way better adapted to the purpose they were wanted for than any we had grown previously.

Here was a lesson for us in grape growing; but as we have already over-stepped our limits, we will leave the reader to consider what this lesson was, till we shall trouble his attention again.

*(To be continued.)*

[We hope these articles of Fox Meadow will be read attentively by that class of people who seldom or never look at things beneath the surface. A horticulturist, above all others, should go to the "root" of all matters pertaining to his profession. He may or may not arrive at conclusions precisely identical with those of his professional brethren engaged in similar investigations, but he will undoubtedly add much to his own knowledge, and lighten the way of many who are groping in the dark. Some remarks suggested by Fox Meadow's articles will come in properly hereafter. In the meantime we hope they will awaken a spirit of inquiry.—Ed.]

## WINE MAKING.

BY JOHN E. MOTTIER, CINCINNATI, OHIO.

As the time for making wine is approaching, I will endeavour to comply with your request, though I can not give any thing new more than I have heretofore written.

In order to make good wine it is necessary to have a good cellar, clean casks, press, etc. First of all, have your grapes well ripened; gather them in dry weather, and pick out carefully all the unripe berries, and all the dried and damaged ones; then mash or grind them with a mill, if you have a proper mill for the purpose. Be careful not to set your mill so close as to mash the seed, for they will give a bad taste to the wine. If you wish to have wine of a rose color, let the grapes remain in a large tub a few hours before pressing. The longer time you leave the grapes before pressing after they are mashed, the more color the wine will have.

For pressing the grapes, any press will answer, provided it is kept clean and sweet.

After you have collected the must in a clean tub from the press, have it transferred into the cask in the cellar. Fill the cask within ten inches of the bung; then place one end of a siphon, made for that purpose, in the bung, and fix it air tight; the other end must be placed in a bucket containing cold water. The gas then passes off from the cask without the air coming in contact with the wine, which would destroy that fine grape flavor which makes our Catawba so celebrated. When properly made, the must will undergo fermentation. Keep the end of the siphon that is in the water fully four inches deep, so as to exclude the air from the wine. When it has fermented, which will be in fifteen days, fill the cask with the same kind of wine and bung it loosely for one week; then make it tight. Nothing more is needed till it is clear, which, if all is right, will be in January or February next. Then, if perfectly clear, rack it off into another clean cask, and bung it up tightly until wanted. If the wine remains in the cask till fall, about November, it will improve by racking it again. Be sure to always have sweet, clean casks. Do not burn too much brimstone in the cask; I have seen much wine injured by excessive use of brimstone, generally by new beginners. For my part, I make little use of it.

You can make different qualities of wine with the same grape by separating the different runs of the same pressing. The first run is the finest, if you want to make use of it the first season; but it will not keep long without losing its fine qualities.

To make good sound wine that will improve by age, the plan is to mix all up together. The very last run will make it rough, but it will have better body and better flavor when two or three years old, and will improve for a number of years. The first run will not be good after two or three years.

I have fully tested the different ways of making and keeping wine these last twenty-five years.

[We have to thank Mr. Mottier for laying before our readers the results of his long experience in wine making. Ranking as he does among the very best and most successful wine makers in the country, his brief directions have a marked value; their brevity, indeed, is their only fault. We should be glad, as would also all our readers, to have him go into minute detail, and we trust that he will hereafter do so. We have heretofore borne cheerful testimony to the excellence of Mr. Mottier's wine; we should be glad to see wine equally good much more common than it is, that the "doctored" importations might be driven out of the market. The reader will observe that nothing is said here about sugar or brandy. Mr. Mottier uses neither.—Ed.]

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#### DESIGNS IN RURAL ARCHITECTURE, NO. XI.—A SUMMER HOUSE OR TEA ARBOR.

AFTER quite a lengthy vacation, we once more greet our friends the readers of the *HORTICULTURIST*, and offer them a continuation of our designs for rural out-buildings.

We give at this time a suggestion for a Rustic Summer House, simple in plan and easy of construction, suitable for some shady place in the corner of the garden, or among the trees and shrubbery of the park.

It is somewhat different in plan from the ordinary Summer House, being divided into three parts, all covered by one roof, the central portion or room being separated from the veranda by a railing of sawed boards like that shown on the front in the engraving, with movable blinds above it, making, when shut, a close, distinct room.

Seats of plank are provided on the front and rear ends, and a heavy table is supposed to be placed in the centre.

This room, measuring nine feet by fifteen, will be a pleasant and good sized apartment to take tea in, of a warm summer evening, and from its shape seems peculiarly adapted to such a purpose.

Its construction is as follows :

The frame is made of thirteen rough posts of spruce, five inches square, with the edges chamfered off, framed into sills of six by six stock, and into plates of four by five stock. The sills extend beyond the main building on both sides, and form the sills of two verandas, and an extra plate is supported by the veranda posts which are of rough untrimmed cedar.

The rafters run from the ridge of the roof down across the first set of plates, and form a footing on the lower plates, so that one roof covers the whole building;

and this roof is covered with rough hemlock boards, and finally with bark laid on in the overlap manner.

The gables are finished with rough boards sawn out in some ornamental pattern, and there is an ornamental railing of the same around the whole room, as well as on the sides of the verandas.

The space between this railing and the roof on the main building is fitted with slat blinds, which are made to rise and fall by means of pulleys and hemp cord, so that the room may at will be converted from an open arbor to a close room.

The inner side of the roof may be finished off with cedar twigs, so as to repre-



SUMMER HOUSE.

sent in a measure an open timber roof; and in this manner, if tastefully finished, a very pretty effect may be produced.

The table in the centre should be strong and substantial in appearance, and be made to open and shut like a common dining table, with two or three drawers underneath, to accommodate such conveniences as one might wish to leave there.

The seat at the two ends should be made of planed slats, two or three inches wide, running lengthwise, and nailed to standards *hollowed out* from front to back,

so as to present a more comfortable surface to the sitter than the flat seats commonly used.

The roof should project from twenty to twenty-four inches.

The whole structure, when completed, should be painted with a couple of coats of some dark, unobtrusive colors of lead and oil paint; and then flowering vines should be planted around it, and trained to climb the sides and roof, and twine around the veranda posts; and tall trees should be planted near it, so as to hide it in their shade; and high growing shrubs should be grouped thickly around it, to give it a snug, secluded air.

By this means a neat, attractive retreat may be constructed, far prettier, and more inviting, and at a much less cost than those elaborate structures of some classical style which one almost invariably meets with in modern country places.

[ We most gladly welcome Mr. Harney back again after his "vacation," which has not been an idle one. The interruption of his interesting "Designs in Rural Architecture" has been greatly regretted, and their continuation will be regarded with pleasure by all our readers.—ED. ]

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### THE MONITOR STRAWBERRY.

(See *Frontispiece.*)

BY THE EDITOR.

WE present this month a portrait of the Monitor Strawberry, one of Mr. Fuller's seedlings, recently alluded to as No. 42. For a number of months we have been directing a series of experiments, having in view the improvement of our frontispieces. The result of these experiments have not, in some respects, been as favorable as we could wish. The photograph is altogether unexceptionable, but it is difficult to get it properly colored, and is attended with most vexatious delays. The next best process for some objects is the one presented this month. It was executed by Mr. J. W. Orr, of New York, and while it is satisfactory to us, it is very creditable to him. Artistically, it is one of the very best things that we have yet presented to our readers, and as such we give all a colored plate of it. We hope they will accept this as an evidence of our fixed determination to keep the HORTICULTURIST up to the mark, in spite of the war. These experiments have been attended with no little expense, but have been rich in experience, of which our readers will receive the benefit.

Mr. Fuller, as we have already stated, has devoted a considerable portion of his time for several years to the raising of seedling strawberries. At first he simply planted the seed from a fine berry, depending upon chance for a good fruit; the result proved to be unsatisfactory. He next resorted to hybridizing,

and, as was to have been expected, obtained fruit of a better class; but even with this careful direction of means, the per centage of really good fruit was not large, and comparatively few reached the standard of excellence he had proposed to himself. His object was to obtain a berry that should unite in itself the chief points of excellence of a strawberry, such as earliness, size, firmness, good flavor, productiveness, vigor, &c. Mr. Fuller's beds consisted of several hundred seedlings, which we carefully examined during two years. During the first year we selected a dozen or so as the best. The next year three were selected as possessing the above points of excellence, viz., 42, 7, and 53, the Monitor, our present frontispiece, being one of them, and also the earliest. They have all been purchased by the Tribune Association for distribution among their subscribers, the price paid being \$3,000. Mr. Fuller, therefore, will not be benefited by any notice of his seedlings, for he has none to sell, and none will be able to get them for some time, except subscribers to the *New York Tribune*. This is a somewhat novel mode of disposing of strawberries, but one upon which the parties interested should be congratulated. The Monitor is the firmest and most juicy of Mr. Fuller's seedlings, and we think will bear carriage well. The fruit is large, and of a good scarlet color. The form is conical, some berries, however, being a little flattened. The flesh is white, firm, and moderately juicy, and the flavor very good. The flower is hermaphrodite or perfect, and needs no other kind to fertilize it. The calyx is large, and parts from the fruit much easier than many other kinds. The foliage is large, and has substance in it. Last, but not least, it is very productive. A strawberry thus early, productive, firm, and good, is by no means common. The Wilson possesses some of these points, but the Monitor is far better. A pomological description of all three will be found in our July number.

Of the other two, Nos. 7 and 52, we will simply say here, that No. 7 (Ridgewood) is nearly as good in all respects as the Monitor, while No. 53 (Brooklyn Scarlet) is even better, though a little later. It is a very handsome berry. The Tribune Association may consider themselves fortunate in having secured these berries.

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#### DOMESTIC WINE MAKING.

BY T. B. MINOR.

THERE are many grape-growers in the United States who are now able to make a few gallons, or a barrel or two of domestic wine, and who are interested in knowing how to make it; so that it shall be good wine—not vinegar, nor a beverage no better than fair bottled cider.

In the first place, I will state the process of wine making in Southern Ohio, in and about Cincinnati, where over 2,000 cases are cultivated in vineyards.

The varieties of grapes grown are the Catawba and Isabella principally, the

former being nine-tenths of the growth of the vineyards. The Herbeumont, Delaware, Concord, Cape, Norton's Va. Seedling, and some few other varieties, are cultivated to a small extent; and it is probable that, in the course of a few years, some new varieties will almost entirely supersede the Catawba, the present staple variety, owing to the liability of that grape to mildew.

The average produce per acre of vineyards in Ohio is about 400 gallons of wine, which is worth at the press about one dollar per gallon, affording a net profit of about \$150 per acre. Germans are the principal grape-growers, who dispose of their wine, as soon as the *must* (grape juice) is pressed out, to the wine makers, who are not generally grape growers.

The process of expressing the *must* is as follows:

The grapes are left upon the vines till fully ripe, when they are carefully picked, and all imperfect fruit thrown aside, to make either vinegar or an inferior quality of wine. The grapes are then placed in the mill for mashing, the mash being immediately put into the press, unless it be required to make a darker colored wine, when the mash is allowed to remain unpressed a few hours, which effects that object, the crimson juice of the inner coat of the skins of the grapes becoming more thoroughly mixed with the *must* than would be the case if it were immediately put to press.

As soon as the *must* is expressed, it is put into clean casks and taken to the wine manufacturer, and sold at the market value.

By adding water to the mash that has been pressed, either good vinegar or a second quality of wine may be made. The same use is also made of unripe and imperfect fruit.

Neither sugar nor spirits, as a general rule, is used in making wine in Ohio; but the quality of the wines made there is not such as we desire to see manufactured in this country, and do not equal in flavor the most of imported wines.

The wine manufacturer, in many cases, purchases *must* from a score or two of vineyards; and in order to make his wine all of one quality, it is emptied into a large vat or cistern, from which it is drawn into casks, which are first fumigated with sulphur, by burning a rag dipped into melted brimstone in the bung-hole, and confining the fumes in the casks for a few hours to remove all impurities.

The process of fermentation now proceeds through a siphon, one end going through the bung-hole and the other being placed in a pail or pan of water, about four inches below the surface. The gas arising in the casks goes through the siphon, escaping through the water, while no air can return into the casks through the same channel.

This fermentation lasts about fifteen days, when the casks are bunged up rather loosely for a week or two, and then they are filled full of wine, some being reserved for that purpose, and bunged up tight.

In the following March, or early in April, the second fermentation takes place. This fermentation commences with the warmth of the season, and in a higher lati-

tude does not begin till May or June. The wine should be racked off before it commences to ferment, put into new, clean casks, or returned to the old ones, after cleaning them; and then the *fining* or clearing process is to be put in action, consisting of the whites of about a dozen of eggs to a barrel, well beaten, and then mixed with a half gallon of wine, and then the whole put into the cask, and mixed through the bung-hole with its contents. This mixture settles very slowly, and carries down with it all impurities in the wine.

In the following fall the wine is again racked and bottled, or left in casks, when it is ready for sale, though it improves with age.

To make a few gallons, or a barrel of wine, for "home consumption," as many families are now able to do, the grapes are to be picked and assorted, as before stated; and in the absence of a wine-mill and press, they may be put into a clean cask or tub, and mashed with a clothes pounder. Indeed, no better instrument is required. About three pecks of grapes may be mashed at a time; and the entire quantity for a barrel of wine can be mashed in a few hours, and the *must* expressed in about the same time. From six to ten bushels of grapes, according to the variety, will make a barrel of wine. The mash may remain in an open cask till all is ready to be pressed; and some wine makers think that it makes better wine by leaving the *must* in the cask or tub till it begins to ferment; but I doubt that allegation. The wine, as I have already stated, will be of a darker color, and more than that for its advantage, I think, is not the result.

The next and more difficult process in wine making, when no press exists, is to press the *must*. I know of no better way than to have the *must* in some out-building, where the rough studding of the side of the room is uncovered. Set a clean wash tub against a stud, with a stout board across it to sustain the *must*, after being put into a stout bag, made of strainer cloth, about two gallons at a time.

A lever is now to be brought to bear upon the bag, about eight inches wide at the place of contact, made of a piece of plank, eight or ten feet long. A small piece of plank is to be strongly nailed to the stud, a little higher than the board upon the tub, as a "purchase" for the lever.

Now, if these "fixins" are properly arranged, there is no difficulty whatever in expressing a barrel of *must* in two or three hours, and with very little waste.

This question here arises with the beginner in wine making, "Shall I use any sugar, and if any, how much?"

It will be folly to attempt to make a good wine—an article that will stand the heat of summer—without sugar, unless the *Catawba* or *Clinton* grape be used, and then it is quite doubtful whether any person can make a wine that will not sour, except the extensive wine makers of Ohio and elsewhere.

It is not supposed that these two varieties of grapes will make better wine without sugar than several other kinds will with the use of it; but they are better adapted for wine, without sugar, than any other kinds with which I am acquainted,

and which are being cultivated for that purpose. But I contend that a much better wine can be made of varieties of grapes that require sugar, than was ever made from the Catawba and Clinton grapes without it. It is a mistaken idea, in my opinion, which some people have, that wine, to be "*pure*," must contain nothing but the pure juice of the grape. What is there in sugar that is not in the pure juice of that fruit? I recommend, therefore, the addition of from two to three pounds of the best white, granulated, or coffee sugar, to every gallon of *must*. No water should be used, as it will require all your skill to make a wine that will not deteriorate in quality during the following summer season; and the addition of water will render your task more difficult.

Again, the question arises with the inexperienced wine maker, "Shall I not put a little brandy or other spirits into my wine, in order to make it sure to keep well in summer?"

Here is matter for a wide difference of opinion. One will tell you that you will spoil your wine, if you use spirits of any kind, while another will say it is impossible to make wine that will stand our climate, season after season, without the addition of spirits of some kind. A great deal of domestic wine, made in States east of Ohio, is lost every season through some fault. They who use no sugar are sure to fail, and many who do use sugar make only a fair vinegar, after it has stood one season, and they give up wine making in disgust. If one desires to use spirits of any kind, an article called "*pure spirits*," without flavor, is probably as good as any that can be used. Put in from three to six gallons per barrel of *must*, according to the strength you desire. This will arrest fermentation in some degree, but the wine will be pretty sure not to sour in summer, if you use the usual quantity of sugar; and if all the processes are carefully attended to, you will have what most people will call an excellent wine, with something of a "*snap*" to it, which is much better than drinking a cross between weak vinegar and old cider.

The *must*, with the addition of the sugar, and the spirits, if any, is to be put into a cask, filled nearly full, set in a cool, airy cellar, and allowed to ferment. A siphon is not absolutely necessary; but if one can be obtained, made of glass or tin, it is better to use it. If not used, put in the bung, then bore a gimlet hole at the side of it, into which put a spile so loosely that the gas can escape around it. At the proper time drive in the spile, and leave the wine to be racked off as before stated.

When less than a barrel of wine is made, kegs or half barrels should be used, and all the processes carried on as with larger casks.

[Mr. Minor has described very well indeed the method of making wine usually pursued around Cincinnati. We are sorry not to agree with Mr. Minor in his opinion of a *pure* wine. The very few good wines that are made receive no addition of sugar or spirits; and a grape that will not make such wine is not a wine grape, and should not be used for the purpose. The sooner this is comprehended the sooner we shall have good wines. That such wines will keep as well as the corresponding class

of European wines, we know perfectly well. The reasons for all this we shall endeavor to make plain in our grape articles. We will add here, that the quantity of sugar recommended by Mr. Minor is sufficient to make any fermented juice keep without the further addition of spirits; but it will be understood that we disown the use of either.—Ed.]

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PRACTICAL PAPERS, NO. V.—HOW TO GROW GRAPES IN  
GARDENS.

BY OLAPOD QUILL.

THE other morning, in conversation with a gentleman upon the subject of the cultivation of the grape, the readiness with which fine crops might be obtained and the pleasure to be derived to the cultivator, he made the following remark:

"I can not grow the grape. I have a fine spot of ground, a very fine garden, with a large surface of brick wall facing a southern aspect. I have tried and tried in vain, and can not get any grapes. What is the reason?"

Yes, what is the reason?

As many other persons may be desirous of knowing how one or two good, strong, healthy vines may be made to bear even luxuriantly, in a small garden plot, or beside a brick wall, and occupy at the same time but little space, the following practical suggestions may be of some service.

In the first place, you have a small plot of ground; if flanked by a brick wall of a southern aspect, so much the better.

The next question is, what kind of vines shall I plant in order to secure a good crop of grapes? (provided I can grow any.) I wish for good eating grapes.

From the following vines, a selection may be made, that would in most cases, give good satisfaction, viz.: The Catawba, Isabella, Concord, Creveling, Diana, Rebecca, and Union Village. The above are all good grapes, and will undoubtedly always hold a high rank among the reliable out-door grapes.

Having made your selection from the above named vines, upon the manner of planting the same, your future success mainly depends.

I have found from carefully noted experiments, that the grape vine should never be planted in wet soil. It requires good drainage. In planting a grape vine, with the expectation of having it grow and bear fruit, the ground should first be drained of all its surplus water, and most thoroughly trenched, to the depth of three feet, not less than two feet and one half at the least. The trench should be for the border, from four to six feet or more wide, according to the space of the ground. Having thus prepared the trench, fill it with oyster shells, bone dust, wood ashes, lime, broken bones, etc., two-thirds full, and over this place six inches

of good garden mould. Upon this mould set out your grape, placing the roots at an equal distance apart, carefully spreading the rootlets upon the mould, and carefully covering up the same with a preparation of mould made from equal parts of garden soil and scrapings taken from the road.

When the trench is nearly filled, a shallow basin or hollow may be left of two or three inches depth to receive the rains, and waterings if necessary. If the vines can be trained on a trellis, or "lean to" against the brick wall, so much the better will be the prospect of getting earlier grapes.

Yet under almost any circumstances, one can with ordinary care raise *good grapes*. Good grapes may be grown upon a small lot, six feet distant from each other, and trained upon stakes six or seven feet high. They should be treated in the same manner as the above, and placed in such position as to receive as much of the sun's rays as is possible.

Having thus answered the question so often asked by so many persons, "How can I raise grapes in my garden?" and told them of our own experience, we having informed them how to plant the vine, when they have grown them, ready for pruning, we will tell them how we prune and train our own; and of the success we meet with from our own experiments and efforts.

[Olapod's grape border has the merit at least of being peculiar, if not original. Thirty inches of bone dust, bones, lime, wood ashes, etc., and only six inches of soil! It is not very much like the border we should recommend for the same purpose; and how a grape vine is to grow in it we can not imagine. Besides, its cost will frighten most people out of the idea of growing a vine, admitting a vine will grow in it. We are inclined to believe Olapod has got a little confused here. Quite as strange as the composition of the border, is the omission of the Delaware grape. We think it might have found a place among so many.—ED.]



## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

**LANDMARKS.**—We have lately been shown some sheets of a new work under this title, by Dr. C. W. Grant. A more expressive title, perhaps, would have been Pomological Landmarks, as the work will be devoted to pomology. The sheets that we have seen are devoted to the Strawberry, and the subject is treated in a manner that is highly interesting. There is a degree of freshness in the style and manner that has been adopted that makes very pleasant reading. The Doctor's own experience is given somewhat in the style of a diary, the dates forming landmarks of historical value. As an example of the style and manner of treating the subject, we give an extract, from which the reader can gather an idea of the Doctor's preferences and mode of culture at the end of twenty years' experience :

"I should, perhaps, state at the conclusion of my twenty years' experience what kinds and how many I now cultivate for my own use, so that, all things considered, I may have the largest measure of enjoyment from strawberries for the longest time, early and late.

"I cultivate only Bartlett and Triomphe de Gand. If Buist's Prize, Longworth's Prolific, Boston Pine, Fillmore, Downer, Vicomtesse Hericarte de Theury, and Constante were added, I should get no addition in the way of variety, and perhaps much difficulty in keeping separate beds; and, in making them ready for use, constant care and trouble will be required to keep them separate.

"But, supposing this all done, nothing desirable is gained. The first two (Buist's and Longworth's) are to every palate far from giving as much enjoyment in flavor as those named; and of the whole number, Boston Pine is the only one that can come into competition with the Bartlett; but it has no superiority over it in any respect, and is not nearly so tolerant of negligent treatment. The others may all be brought into comparison with Triomphe de Gand, and offer no distinct sensation in the way of flavor, and no advantage in any one point. Two of them may be found to be equals—Vicomtesse and Constante.

"I am in expectation of admitting one more, that promises to continue the season later than Triomphe de Gand, with fruit of largest size, having the wild strawberry flavor in full, and borne very high from the ground. It must sustain one season

more of trial, when, if its promises of three past seasons are fulfilled, it may be admitted for having a distinct delight in flavor and high merit in all respects. Some would admit Burr's New Pine, but with those who have cultivated it, and myself included, it has gone into disuse.

"When grown by the curious amateur, the number may, with interest for a time be indefinitely extended. They are all beautiful and interesting to make up the variety for an occasional party, but not those that one would choose to make every day life with; and when the interest that for a moment only attaches to variety has passed, the only difference which they will be found to have from one or the other of our duo will be very nearly measured by their degrees of inferiority. I would remark, in reference to the Bartlett, that for the year past I have entertained some suspicion that it may be a Boston Pine so changed by circumstances as not to be recognized by the best judges who are most conversant with both. Its characteristic differences are, much darker color, less firmness of flesh, more abundant foliage, bearing more abundantly than any other variety under negligent treatment, which is the reverse of the Boston Pine. In carrying its fruit high above the ground, Boston Pine is in some degree superior to the Bartlett, but the latter carries its fruit always well up from the ground on strong, woody scapes.

"I have grown strawberries in every variety of soil, from heavy clay to light gravel and pretty open sand, including a reclaimed alder swamp, and have found but little difference, so far as crop is concerned, but the difference in cost of preparation is very great. In every garden that is fit to be called such, the conditions of a strawberry bed are always present. This is not intended to say that all good, rich garden soil is fit at once for the reception of strawberries, but the contrary; for soil that has been well cultivated for a series of years, although it may be rich and deeply worked, is not to be planted with strawberries without amendment, and the compost which I have named, or sods, or muck, including leaf mould, with some stable manure, are the suitable materials for this purpose. Without this, failure will be likely to occur. In fitting the ground for the best results in the one, it is fitted for the other, and a well-prepared strawberry field, after ceasing to use it for that, has undergone the best possible preparation for any kind of fruit, be it trees or vines, provided the ground has been worked to sufficient depth. But much less depth will give very satisfactory results with strawberries than would be thought permissible for a more permanent planting, as for a vineyard or orchard of standard pears. Under favorable circumstances, eighteen or twenty inches of depth will answer very well for strawberries; but no one who aims at good success and permanence with standard pears, will plant on ground that has been worked less than three feet. Still, the strawberry culture has been one great step in the preparation; and when the vines are dug under, the ground will from them alone have received more enrichment than it will have lost by two good

strawberry crops, which, if well managed, have enriched the pockets of the owner also.

"Out of the number that I have tried, only few have been named, but those have been the most noteworthy, and generally both the best and the types of classes. La Constante and Vicomtesse Hericarte de Theury, after several years of trial, may be said with certainty to be excellent in all respects, but the utmost hope that can be fairly entertained of therh is, that they may equal Triomphe de Gand, which may be taken as the representative of them.

"Every year hundreds of seedlings are produced in this country, and as many thousands in France and Belgium, by good cultivators who know how to prepare them for exhibition, and consequently every exhibition is teeming with those that make a beautiful show, and many of them are really very good; but now, when the strawberry appears to have approached to near perfection, it must be one of rare excellence that will equal even our three or four best kinds. But the effort to produce better is just as laudable now as it was in the days of Keens, and the means with which to do it ample and well ascertained.

"In my next number I shall give precise directions for the preparation of the ground for fall and spring planting, for garden and field culture, and tell how to grow seedlings, and also describe some of the most important kinds, and in a subsequent number give directions for late and early forcing."

**A NEW BEDDING PLANT.**—One of the most beautiful plants that we have grown this season is the *Coleus Verschaffeltii*. It is an ornamental leaved plant, being of a very striking dark crimson. In the open air it is of a compact, symmetrical form, and grows rapidly. Either in masses or singly, it is a very beautiful object. It is propagated by cuttings with the utmost ease. We think it is destined to be a very popular summer border plant. It is not hardy.

**MR. MACE'S VINEYARD.**—We recently passed through Newburgh, and stopped for a moment to look at Mr. Mace's new vineyard. Our examination was hasty, expecting to repeat the visit soon. We found every thing in admirable order, the vines making a beautiful growth, and giving promise of a large crop of fruit. Those who wish to see how the Delaware can grow when well treated, should give Mr. Mace a visit. We have no doubt he will feel a just pride in showing his vineyard to all who may wish to see it. For the present, we can only repeat what we said of it last year.

**AMERICAN INSTITUTE PRIZE ESSAYS.**—The Institute has completed a very liberal list of prizes for Essays on a great variety of subjects relating to Agriculture, Horticulture, the Mechanical Arts, etc. We call particular attention to these prizes, as being worthy of the consideration of all parties interested in either of these departments of industry. Circulars may be obtained on application at the Institute in the Cooper Union Building, New York.

**THE ILLUSTRATED STRAWBERRY CULTURIST.**—This is a new book on the Strawberry by A. S. Fuller, of Brooklyn. It is a thoroughly practical work, giving the results of Mr. Fuller's experience in the cultivation of the strawberry, as well as directions for raising seedlings by hybridizing, etc. It is written in a style that will be easily understood, and in following its directions, not many will fail to grow good strawberries. All lovers of the strawberry should send ten cents in stamps to Mr. Fuller, and get the book. .

**BROOKLYN HORTICULTURAL SOCIETY.**—The fall exhibition of the Brooklyn Horticultural Society will be held at the Academy of Music on Tuesday, Wednesday, and Thursday, September 23d, 24th, and 25th. The audience room will be used on this occasion ; and when floored, as it will be, it makes an admirable room for an exhibition. We hope the members of the Society, and others, will make a determined effort, and eclipse all former exhibitions. Circulars may be had of the Secretary, C. B. Miller, 634 Broadway, New York.

**THE AMERICAN ODD FELLOW.**—Mr. Orr, the publisher, has sent us a new monthly magazine with the above title. It is devoted exclusively to Odd Fellowship, and to the members of the order must prove a welcome visitor. It is neatly printed on good paper, and furnished at one dollar a year.

**CONNECTICUT STATE FAIR.**—We learn that the Eleventh Annual Cattle Show and Fair of the Connecticut State Agricultural Society will be held at Hartford from the 7th to the 10th of October, both inclusive. We hope the people of Hartford will be compelled to make very extensive preparations.

**FAIR OF THE INDIANA STATE BOARD.**—We have received the Premium List of the Tenth Annual Fair of the Indiana State Board of Agriculture, which will be held on the Military or old Fair grounds, immediately west of the city, two squares from the State House. It will commence on Monday, September 29, and continue till the fourth of October. The prize list is a very liberal one, amounting to some \$6000. We hope there will be a large display of articles, and a great crowd of people to look at them.

**OHIO FIELD NOTES.**—We learn from the last issue of this welcome weekly that it has been merged in the *Ohio Farmer*, under which name it will hereafter be published, Mr. Harris still continuing at its head, which is only saying that it will be a spirited and able journal. Brother Harris, we wish you a jolly good time, and a very great measure of success.

**THE AIR-PRESSURE CHURN.**—We are particularly fond of testing new inventions, especially those relating to Horticulture, or in any way pertaining to rural life. Mr. Hilton, the agent, 58 Cortland street, recently sent us an air-pressure churn, and we have had a good "turn" at it. It is in the form of a keg or small barrel, set upon a frame, and turning upon its smallest diameter by means of a crank. One head is movable, but fits air-tight. To the other head an air-pump

is attached, by means of which air is introduced until a considerable pressure is produced. The churn is turned some fifteen minutes, and the result is an abundance of hard, even grained butter. It has always been objected to patent churning that they will not make butter of as good quality as the old dash churn, and we are willing to admit that there is force in the objection; but it will not hold good against the present one. It embraces, more nearly than any other that we have seen, the principle of the dash churn; the milk being forced against the dasher, instead of the dasher against the milk. The condensation of the air, we think, assists materially in a more perfect separation of the butter from the curd; for we find, on trial, that the air-pressure churn will produce a greater amount of butter from a given amount of cream than the dash churn. On the whole, our experiments with the air-pressure churn have been very satisfactory.

**COMSTOCK'S ROTARY DIGGER.**—We were lately present at a trial of Comstock's Rotary Digger, at Flatbush, L. I. There were a number of gentlemen present, not the least interested of whom was Mr. Howe, famous as the inventor of the sewing machine. We shall not at present describe the machine further than by saying that it is a cylinder mounted with steel tines, and moving on wheels. These tines can be arranged so as to enter the soil to the depth of twelve inches, or even more. The machine can be thrown out of gear, so as to move readily and easily over any surface. The present implement, drawn by one pair of horses, broke up and pulverized the soil full eight inches deep, and of the width of about three ordinary furrows; thus doing the work of three yoke of oxen with the plow, and doing it rapidly and well; much better, indeed, than it could be done by any plow now in use. The action of the machine resembles that of the spade. The soil in which it was tried was a compact loam, neither light nor heavy. The machine was followed about the field, and its operation watched with profound interest. Some criticisms were indulged in, which were listened to by Mr. Comstock respectfully, and even eagerly, for he does not claim that the machine is yet as perfect as he can make it; some defects, indeed, he pointed out himself. We think (and said) that the number of tines might be reduced at least one-half with advantage to the work, and a great saving of friction. But Mr. Comstock noted all these criticisms at the time, and has gone home to perfect his machine. For simplicity, cheapness, and good work, we have seen no implement that has given us greater satisfaction, and few that have given as much. We think it is destined, when perfected, to make a revolution in plowing. We hope to see the day when soil can be thoroughly broken up and pulverized without a dead furrow.

#### BOOKS, CATALOGUES, ETC., RECEIVED.

**THE PROPERTIES OF FLOWERS AND PLANTS,** by George Glenny.—We are indebted to C. B. Miller, 634 Broadway, for a copy of the above work, which has for a long time been regarded as a standard work in England. The near approach of our annual horticultural exhibitions seems a fitting time to call attention to such

a work. Though we do not agree with some of Mr. Glenny's rules, regarding them as too stiff and arbitrary, we still think some rules are quite necessary, especially for judges. A work of this kind should be in the library of every horticultural society; if not adopted as a standard, it will furnish a good basis upon which to frame one.

*C. Reagles & Son*, Union Nurseries, Schenectady, N.Y.—Wholesale Catalogue of Fruit and Ornamental Trees, Vines, Shrubs, etc. 1862.

*Ellwanger & Barry*, Mount Hope Nurseries, Rochester, N. Y.—Wholesale Catalogue or Trade List of Fruit and Ornamental Trees, Shrubs, Roses, Dahlias, Bulbous Roots, Border Plants, Seedlings, etc., for autumn of 1862.

*Edward Tatnall*, Wawaset Nurseries, Wilmington, Dela.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, etc.

The Historical Magazine, and Notes and Queries concerning the Antiquities, History, and Biography of America. August, 1862. New York, Charles B. Richardson, 264 Canal street. London, Trübner & Co.

The Journal of the Illinois State Agricultural Society. Published monthly at Springfield.

*W. H. Risley*, Berlin, Conn.—Catalogue of Fruit Trees, Grape Vines, etc.

*J. M. Thorburn & Co.*, 15 John street, New York.—Catalogue of Imported Dutch Bulbous Roots, Hyacinths, Tulips, Narcissus, Crocus, etc., with Directions for their culture. Autumn of 1862.—The Messrs. Thorburn are early on hand this season. We are glad to know that the war and the tariff will not prevent us from having fine bulbs this winter.

*W. R. & M. D. Willson*, West Bloomfield, Ontario Co., N. Y.—Wholesale Catalogue of Fruit and Ornamental Trees, etc.

*William Reid*, Elizabeth, N. J.—Wholesale Price List for the Fall of 1862, of Fruit Trees, etc.

*H. Southwick & Son*, Dansville, Livingston Co., N. Y.—Wholesale Catalogue of the Livingston Nurseries, for Autumn of 1862 and Spring of 1863.

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## Correspondence.

EDITOR HORTICULTURIST:—Can you or any of your correspondents tell me how to destroy those large caterpillars on the Tomato plants? My tomatoes and those of my friends are infested with caterpillars from two to three inches long. The only way of making an end of them that I know of is to gather them off and kill them. This is a sure way, but the task with me is a long one, as I have a great number of plants, and the caterpillars seem to breed at a *two-forty* rate. I have to go over my plants twice a week with a pair of shears, and every worm I see I just cut him across with the shears. I suppose you will say this is a very good way to kill them; but what I want to know is, if they can not be destroyed

before they do any harm? Can they not be destroyed while in the larva state? My celery plants are infested with a caterpillar something like the one on the tomato plants. If you can tell me how to get rid of them, I shall be much obliged.

Yours respectfully,  
HOMMOCK PARK.

[We certainly do think Hommock Park's method a very sure one; but it is very tedious. Tobacco water and other substances will cause them to drop from the plant, but seldom kills them. A good plan, and one that saves much subsequent trouble, is to destroy the eggs; many are thus killed at a single blow. The ichneumon very often selects these worms to deposit its eggs in, and destroys many in this way. You will often see the backs of these caterpillars covered with small white cocoons. If you put them under a glass, you will soon have a swarm of ichneumon flies. The caterpillar on young celery plants is a greater pest than the other. We do not know of any certain mode of getting rid of them except killing them by hand. Perhaps some of our readers may know a better way.—Ed.]

EDITOR OF THE HORTICULTURIST:—In the July number of your Journal, you give a report of the late exhibition of the Brooklyn Horticultural Society, wherein you would apparently give your readers the impression that the Seedling Strawberry which received the premium as the *Best*, was not justly entitled thereto; and further, you seem very desirous to make people believe that Mr. Fuller and Mr. Burgess exhibited Seedlings, which were actually entitled to the prize over mine.

While I admit that both these gentlemen exhibited very fine berries, yet I must say that I think the judges were men of very good taste, and understood the work before them. In your report you suggest that Seedlings should have been exhibited two years and examined on the ground. Now this is just exactly my view of the case, and the latter part of this suggestion I made to several prominent members of the Society on the first day of the exhibition. While these *suggestions* may be your honest convictions, yet I can not see why you should *think*, as you say, that under this rule Mr. Fuller's and Mr. Burgess's Seedlings would have taken the prize over the one that received it, *you* never having seen it in bearing. My bed of "General McClellan" covers a piece of ground 85 yards long and two yards wide, from which I picked, this season, 350 quarts of berries, which is over 300 bushels to an acre. Another very good proof of the real merits of my Seedling is, that although contrary to the rules of the Society, an interested party remained in the room while the judges were examining the fruit, and done his best to defeat me and win the prize himself, but the judges being honest men, believed in giving honor to whom honor is due, and hoping you will be kind enough to do the same,

I am respectfully yours,

Newark, N. J.

FRANCIS BRILL.

[It was our purpose to have inserted Mr. Brill's letter in our last issue; and we supposed it was in till the number was issued. Mr. Brill is mistaken in sup-

posing we wished to create any false impression whatever; we simply exercised our right of criticism. The point was just as likely to have reached some other person as Mr. Brill; we were not thinking of persons, but of the objects immediately before us. Now we will explain to Mr. Brill why we thought the others might have taken the prize under the conditions we suggested. We tested all these seedlings in the room; some of them we had examined for two or three seasons in the beds, and knew two or three of them to be of large size, good quality, and exceedingly productive, and we accordingly supposed they would stand more than an even chance with a much smaller fruit, even though it should excel a little in quality. The same thought would probably have occurred to Mr. Brill himself under the circumstances. But he should not be too sure that we have not seen his seedling, if, as we suppose, General McClellan is identical with the berry that he has been selling for a couple of years past as Brill's Favorite. We had no thought, in any thing we said, in detracting in the least from the real merits of Mr. Brill's seedling, or in lessening the honor to which he may be entitled in having originated it. We desire at all times to mete out simple and even-handed justice.—ED.]

THE MONTGOMERY GRAPE.—MR. EDITOR,—Agreeably to your request, I send you an account of what I suppose to be the Montgomery Grape, lately brought into notice. In the year 1830, on my return to New York, in June, from the State of Alabama, where I intended to commence a horticultural establishment, in the vicinity of Mobile, and expecting to return early the ensuing fall, not wishing to remain idle through the summer months, Grant Thorburn, who then kept his Seed establishment in Liberty Street, told me that Mr. Montgomery, at Upper Red Hook, in Dutchess County, N. Y., (*now changed to Tivoli*) wanted a man to put his grounds in order: I went and saw Mr. Montgomery, and at once made an engagement. I found the location a very pleasant one, the house and grounds being on one of the knolls standing back from the river about half a mile. The ground was susceptible of being made one of the finest places on the Hudson, having a beautiful brook, with several water-falls, running through the grounds. The soil, with the exception of the knoll where the Grapes were planted, was a very tenacious, stiff clay. Where the Grapes were planted was a loose formation of rotten stone and loose boulders. To this formation I attributed the success of the Grapes. I was familiar with the White Chasselas Grape under out-door cultivation, and was perfectly satisfied it was nothing else. I am under the impression that Mr. Montgomery told me that he brought the Grapes from Philadelphia, where he formerly resided, but this I am not certain of. Being satisfied that they were White Chasselas, the history given by Mr. Montgomery at the time left no impression on my memory. The dressing of these vines being the first work I did, I remember them very distinctly; and since then, I have remarked to several people the success with which they were cultivated, ripening perfectly, and being free from mildew.

How long they continued to flourish and ripen their fruit after I left, I am unable to say, having lost track of the family long since, and never having had an opportunity of visiting the grounds. I am under the impression that Mr. Montgomery has been dead a number of years; and he was probably the only person who could have given an account of this Grape. He had a large family of sons, who are no doubt living or settled somewhere in the neighborhood of New York or Philadelphia; but being young at that time, they would not likely be able to give any account of where they originated or came from.

WILLIAM REID.

[At a meeting of the Brooklyn Horticultural Society held last fall, we stated that the history of the Montgomery grape, so called, could be traced back some thirty years or more. We also stated that Mr. Reid, of Elizabeth, saw the grape at Mr. Montgomery's as long ago as 1830, at which time it was believed to be the Chasselas. Some of our Poughkeepsie friends having suggested that we might have misunderstood Mr. Reid, we requested him to send us a written statement of what he knew of this grape, and we now give it to the reader. It agrees with statements that we have heretofore received.—ED.]

POUGHKEEPSIE HORTICULTURAL CLUB.—We are very glad to learn that this Club holds monthly conversational meetings, and is doing much good. Horticulture will be more surely advanced by such meetings than by even public exhibitions; and when both are combined a society is in the way of doing its duty, and may confidently look for public support. For the proceedings of the last meeting, held August 6th, we are indebted to Secretary Young.

Messrs. H. and J. Carpenter exhibited ten varieties of Currants. H. L. Young exhibited the New Rochelle and the common field Blackberry. Mr. Williams exhibited Summer Pippin Apples, Mr. Wilcox very large Harvest Apples, and Mr. Gifford the Beurré Giffard Pear.

Mr. Williams thought it very desirable to raise the Black Currant for wine. He believed it had medicinal qualities, and could be made for 50 cents a gallon at the present price of sugar. An acquaintance of his had made a hundred gallons.

Mr. Vincent opened the discussion on Grapes by stating that he had growing on his premises 13 varieties, and that some sorts had mildewed badly, while others had escaped. He spoke of mildew or blasting of the berries, not of the leaves. Even the Concord, supposed to be free from this affection, had suffered badly, so that out of 600 or 800 bunches, but very few perfect ones could be obtained. The kinds mildewed are the To Kalon, Catawba, Diana, and Anna, and they had been affected in degree somewhat according to the order in which they are named, the To Kalon being the most injured. The kinds that have escaped mildew up to the present time are the Hartford Prolific, Northern Muscadine, Elsinburgh, Delaware, Rebecca, Clinton, Union Village, and Isabella. Mr. V. remarked that nearly all his vines had about the same exposure, different kinds were trained on the same trellis, and all had been similarly treated. They were young vines; had been set

about three years; they were heavily manured on first planting. This last fall he had manured with manure gathered from blacksmiths' shops; this had been placed in a trench between the trellises, not directly on the grape vine borders.

Mr. H. D. Myers raised on a side hill, with a southeast exposure, and on a slaty soil, approaching in some places close to the rock, the Diana, Catawba, and Isabella. His vines had been set out about three years; his fruit had not mildewed, except at one end of his trellises, near a board fence. He had applied but little manure last fall; he put not over four quarts of rotted manure to each vine.

Mr. J. Carpenter was not troubled with mildew; he had never been, but this season the berries were cracking open, so that many bunches were injured from this cause. It was so with all kinds of grapes raised by him. He did not manure heavily; he used very little manure, except in the way of bone dust. The Concords, growing on a gravelly hill, had burst, but the Isabellas had suffered still more than this variety.

Mr. H. L. Young said that his grapes, growing on a side hill, with a slaty rock underlaying the soil, had been but little affected by mildew. Among many hundred bunches of Concords, only here and there a mildewed grape was visible; the loss would not be worth mentioning. The Dianas had suffered more, and some bunches were injured. As to the Catawbas, they were nearly all gone, except on occasional favored portions of the vines, small in extent. No other kinds had mildewed to any degree, and he fruited some ten or eleven varieties.

Mr. Uhl found the Catawba, Diana, and Montgomery to mildew badly, the Concord slightly; the Isabella, Union Village, Northern Muscadine, Clinton, and Delaware were perfect. He had found some of the leaves of his vines mildewed. On his high trellises, all the Diana grapes below a line ten feet above the ground were gone; above this there were some good bunches.

Mr. Vincent said, he thought the mildew came from the berries being kept wet by frequent rains, and in the sun striking upon them in this condition. Others stated they thought it came from excessive rains, acting upon a soil too highly manured. No remedy was proposed by any member when inquired for, but it was remarked that sulphur thrown freely on the vines had been used, but apparently without success.

The discussion was engaged in by many others, including Messrs. Merritt, Tallman, Corlies, and Gregory, and was very suggestive to cultivators of the vine, seeking the proper course for its successful treatment.

On motion of J. B. Jewett, the President was authorized to appoint hereafter a committee of three to prepare a Premium List, choose judges, and make other preparatory arrangements in reference to the contemplated exhibition towards the close of September next, said committee to report at the next meeting of the Association.

The subject of raspberries being introduced, Mr. H. D. Myers considered the Antwerp best for market, the Fastolff for family use, and Brineké's Orange the most suitable for preserving.

Mr. Jewett's opinion was that Brinckle's Orange was rather tender; that is, the plant; he had tried the Franconia, Allen, and Fastolf; the last was best for family use, but it was too soft to bear any transportation. He liked the flavor of the Allen, but could not get from his bushes a sufficient quantity for use; the berries were small and imperfect. Mr. Young found the same fault with the Allen; the great quantity of its suckers was also an objection.

Mr. Carpenter found the Allen fruitful, when planted by the side of the Antwerp, or some other productive variety.

Mr. Buckingham said that he did not like the Perpetual Red, and had left off its cultivation. On inquiry as to the best time to set out a Raspberry bed, Mr. Myers said that the practice in Milton and through the raspberry growing locality was to take up the bushes in the fall, heel them in, and then set them out in a bed in the spring.

Adjourned to the afternoon of the 1st Wednesday in September.

H. S. YOUNG, Sec'y.

BROOKLYN HORTICULTURAL SOCIETY.—The last Conversational Meeting was held at the Academy of Music, President Degrauw in the Chair. The evening was mainly occupied with Dr. Trimble's Report on Insects injurious to city trees, from which we make the following extracts, to be followed by others.

In the Report of your Committee on this subject, it is stated, three of these parasite flies had been long known. In these investigations I have found eleven varieties, varying in size from a small wasp to others, such mere specks as to require the aid of a glass to be able to distinguish the characteristics of the Ichneumon class. More or less of these have been found in every part of your city as well as in New York. In a collection of thirty of the worms in the pupa state taken from one tree, fifteen had been destroyed by these enemies, and in these fifteen, there were five varieties of these parasites. But from no other tree or section of either city have I found the proportion of these enemies, or friends rather, so great.

At the last meeting I spoke of one tree near your public buildings as having been a subject of special attention; that the number of worms on that tree in the beginning of the season was unusually great; that two weeks later not one could be found upon it, and that the ground was almost covered with the dead bodies of half-grown caterpillars.

The chairman of your committee had observed the same thing, and supposed that the leaves of the tree (a variety of the Elm) were poisonous to the worms. This was a very natural inference; but if poisonous this year, why not other years? And why should the parent moth have chosen a poisonous tree to deposit her eggs upon?

In the world of wonders in which we live, there is nothing more wonderful than the instinct of insects; *it is almost never at fault.* You may find small collections of eggs upon the Ailanthus and some other kinds of trees that these worms do not

prefer to feed upon, but it must be remembered that the laying of the eggs with insects is usually the last act of life, and that often they become almost too feeble to fly; in this condition they may be sometimes carried by the wind, during storms, to other trees that would not be their choice. But it would be hard to find an instance where a parent butterfly has left her progeny to the contingencies of poisonous food. My investigations were commenced too late to ascertain positively that these young worms had been stung by parasite flies; but I suppose they were, from the circumstance that I have in many instances found the larva of insects in the bodies of these caterpillars; that they differ from the eleven specimens found in the pupæ in this important particular, that when full grown, they leave the bodies of these dead caterpillars, and pass into the ground, and to all appearance thus far will not undergo their transformation into flies till next season. Now, if this theory should prove correct, and these flies multiply at the rate such insects usually do, another year they may cause a greatly increased number of your young worms to come to the ground prematurely; and if you should offer a bounty on worms, this very kind would be likely to be brought in; and should they then be so disposed of as to destroy also the embryo parasites within them, you would find yourself about in the predicament of the man who killed the goose that laid the golden eggs. \* \* \* \*

It may be asked, what has all this talk about Parasite or Ichneumon flies to do with the great question in Brooklyn, "What shall be done with the worms?"

At one time, many years ago, the whole civilized world was asking, "What shall be done with the Hessian fly?" And thus went on for a series of years, until wheat was likely to come up to starvation prices. But during all this time a little Ichneumon fly was mustering its forces, increasing them rapidly every year, until at length in *overwhelming force* it pounced upon this destroyer, and that question has been settled ever since.

I have lately seen a statement from a western agricultural paper, of four different parasites found for the caterpillar called the Army worm. That strange insect appears occasionally as the plagues did in Bible times. In the prophet Joel there are several allusions to these insect visitations. Of one of them it is said, "The land is as the garden of Eden before them, and behind them a desolate wilderness; yea, and nothing shall escape."

So with this army worm. When a universal destruction seems impending, and men begin to realize how helpless they are to avert it, the laws by which *God* has decreed that the insects, as well as every other portion of *his* creation, shall be governed and controlled, are found to be enforced, and in good time.

This parasite or Ichneumon class of flies is one of *his* instrumentalities. \* \* \*

*The Ichneumon.*—The Ichneumon animal eats the eggs of the crocodile, to some extent controlling its numbers.

The cuckoo in England and the cow bunting in this country, lay their eggs in the nests of other birds, and the young are nurtured by foster mothers; and it is

said these parasite intruders have the instinct to throw the rightful possessors out of their nests. By such a process these foster parents would be lessened the next year—a law that would react upon the parasites in the future; and we see that none of these birds become numerous. The ichneumon insect is a four-winged fly, and an immensely numerous class, of all sizes and exceedingly irregular and eccentric in shape. *They are the great regulators of insect life.*

The female deposits her eggs in, and the young feed upon, the living bodies of other insects.

It is the fatal enemy of many other insects; flies in their larva state, and even the eggs of some insects, are destroyed by them, but the caterpillars are the great sufferers. You may often see feeble looking ones, studded over the back with little protuberances; these are the cocoons of the parasite grubs that have fed to maturity upon the flesh of the poor worm, and leaving just vitality enough to last as long as it is necessary for them that they should live. These little creatures, when full grown, issue from the substance of the poor caterpillar, spin their cocoons and attach them by silken cords to their miserable victims. (Here the Doctor showed a specimen with eighty cocoons attached, and from which he had collected the flies.)

Many insects prey upon each other; sometimes diseases diminish them; birds destroy incredible numbers; toads eat them; frogs and fish consume vast numbers of the larva of the submarine varieties; but such is the incredible rate of increase, that many kinds would overrun us, but for the wonderful check of this parasite class. The newspapers often report fearful numbers of some new insect, and forebode dreadful consequences. Such insects are troublesome for a short time and then disappear. Some observe a periodicity, as the Locust, the Chaffers, and Ephemeræ, but most of them are checked by the Ichneumon.

I have seen the stems of grapes cut off in great numbers by a caterpillar, and I attempted to see what butterfly it would come to, but I only got large, fierce looking Ichneumon flies, two from each.

Our pine forests are saved from serious injury, and the lumber from damage, by the friendly interference of an Ichneumon insect that stings the borer, while just under the bark, during the period of its transformation.

I once knew an eccentric person make a calculation, that the undisturbed increase of a single herring would, in twenty years, more than equal the solid earth, and he became nervous with the idea that we were all to become herrings. He forgot that in addition to the hundreds of enemies that prey upon these fish, besides ourselves, that the cachetot whale feeds upon them, and takes in 2,000 at a single mouthful. No. *Nothing here is allowed to take exclusive possession.* Of the hundreds of thousands of varieties of insects, none become extinct, and none are permitted to preponderate to a dangerous degree for any length of time.

When meteors and comets jostle the planets out of their places, and the heavenly system becomes disturbed, it will be time enough to anticipate that God has forgotten to regulate the insect world.

*The Birds.*—I once noticed a proposition to stock your city with Birds, in order to rid you of the worms. Some one, I think, recommended a large importation of sparrows. Few people have either the inclination or time to study insects, but such ignorance of birds is amazing. If you had thousands of Canary birds upon your trees during the season of the worms, and they could get no other food, they would soon die; and the sparrows are of the same class, their beaks are short, sharp and strong, formed for cutting off the husks of seeds, and seeds are their chief food. To be sure, they will feed their young on softer food, and will take some insects; but the sparrows would never conquer your span-worms.

Much the largest portion of all the birds are insectivorous; nearly all the singing birds of summer; and they attend to the caterpillar business for us in the country; but there are difficulties in the way of having their services in a city like this. Brooklyn has grown faster than the trees. Had you some large old parks, with lofty elms or willows, the Baltimore Oriole would be a common bird; she does not object to city life, provided she has the proper trees. It is one of our most common birds in Newark, N. J. This season I noticed they were plenty in the Washington Parade Ground in New York; there, also, I noticed several kinds of the thirty or forty varieties of little warblers, and these are among the best of the insectivorous birds. Had you large gardens with thick hedge-rows, and not too many cats, you would have the cat-bird, possibly the thrush might come. Had you old apple orchards with hollow limbs, the blue-birds would be here, and all these would enjoy your worms hugely.

Your city might swarm with pigeons, but they would not touch your insects; they do not even feed their young upon them, as quails and poultry do. All the varieties of swallows, including the martins, (and some of these can be domesticated,) are fly-catchers, and might prove more injurious than useful. The king-bird, pewit, snap up immense numbers of flies, and some bugs and bees in the day-time; but the butterfly of your span-worm is a moth, and is on the wing almost exclusively at night. The night fly-catchers, as the whip-poor-will and night-hawks, have their peculiar habits, and seldom pursue their food in cities.

The wren you can have. It is easily domesticated, and increases rapidly; but except while the span-worm is still small, or during the few days that the moths are in existence, it can not accomplish much; its capacity is too small, and I suspect its taste is too delicate for food so gross.

But still I would advise you to put up wren-houses all over the city; independent of its usefulness, it is an amusing little pet. I have watched one this season with unusual interest. When it first came on, it found its house occupied by a pair of blue-birds; but it is a pugnacious little fellow, and soon turned them out; then their nest was carried out also. In a few days the pair entered upon the great work of building their nest, and it is astonishing what a number of little sticks they will carry in before it is finished. Give your wrens good sized houses, and let the doorway be a good large augur-hole, as they are sometimes much annoyed by the

labor of turning and twisting the sticks to get them in endways. I had a quantity of brushwood carried into the garden early in the spring, to stick peas with; and you should have seen how the wrens were delighted with it; there they chattered and worked at the twigs for many days.

At first they were annoyed by the cats, but they soon found they were perfectly safe in that brush-heap. Sometimes I have seen a cat make a spring, but it was always unsuccessful; the little bird would hop aside, and as if to express contempt, would cock its little tail up straighter than usual, reminding you of Washington Irving's little dog, so proud that he twisted his tail so tight that he could not keep his hind feet upon the ground.

The subject of the protection and uses of birds is attracting much attention.

As one of the links in the chain of animated nature, we should be careful how we interfere; by destroying birds that *seem* to be destructive to our crops, we might break the harmony of that chain, and thus give a preponderance to worse enemies.

But it is with birds, as with ourselves and all the rest of animated creation. Life is a question of food. Suppose you had birds enough to destroy, or even hold in check, this worm pest; as a food, it would only last through the month of June and a few days in July, and then where would this great army of birds, now increased by their broods having come to maturity, be fed during the remainder of the summer. Remember they are insectivorous, and could not be subsisted upon grain.

Birds can only be used as an adjunct, and to a limited extent, in this warfare.

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#### FRUIT GROWER'S SOCIETY OF WESTERN YORK.

(Concluded from page 292.)

##### THE WHITE GRUB.

*Question.*—The White Grub? What are its habits? What are the most effectual means for its destruction?

L. B. Langworthy.—The white grub is the larva of the May-bug. It is four years in completing its growth—is most destructive in its third year. He thinks it impossible to destroy it, except to dig it up and kill it. It is particularly destructive to strawberries.

Geo. Ellwanger had *always* found white grubs to be plenty in grounds manured by night soil—would never use it until composted three or four years.

E. W. Herendeen had tried clear salt to kill the grubs, without success.

##### SALT FOR QUINCE STOCKS.

*Question.*—Has the use of Salt been found to be beneficial to Quince stocks, or to Plum trees?

Geo. Ellwanger had applied salt to pear and plum trees, and found it produced a wonderful effect; would apply six or eight barrels to the acre—would use as

much as a peck for a large tree, as large as a large apple tree. Uses it in February. Puts enough on to make the ground white.

C. Downing thought salt good for all vegetation, but it would do no good to kill insects.

W. P. Townsend had used salt for many years with the best results, for quince trees.

Dr. Sylvester said there was a limit to the use of salt—it must not be used in excessive quantities.

#### NEW STRAWBERRIES.

*Question.*—What new varieties of the strawberry have been found to promise well in the experience of this Society?

Dr. Sylvester thought Frost's Fillmore a valuable new sort. He thought the crop a full average of other sorts. Cutter's Seedling he considered a valuable sort also. In Boston it was highly prized. The Austin Seedling too soft for carrying well.

#### THE EXHIBITION OF FRUITS.

The Committee on Fruit made the following report:

*Cherries*—One collection, two varieties, viz.: May Duke and Gov. Wood, from E. Ware Sylvester, Lyons.

*Strawberries*—Collection, 15 varieties, comprising among others Triomphe de Gand, Hovey, Fillmore, Austin Seedling, Jenny Lind, Peabody, Downer's Prolific, and Cutter's Seedling, from E. Ware Sylvester, Lyons.

A new seedling, of very dark color, rich flavor, and good size, promising well, from J. A. Pain, Clyde.

Collection of six varieties, comprising Wilson, Triomphe de Gand, Trollope's Victoria, and others, from Wm. Webster, of Rochester.

A new pistillate seedling, called Russell's Great Prolific, originated by H. Russell, of Seneca Falls, in 1856, very large, 4 $\frac{1}{2}$  inches in circumference, color bright red, flavor very good, flesh rather firm, juicy, and rich; appears to be very productive, and promises to be valuable. Exhibited by Geo. Clapp, of Auburn.

Three baskets containing very fine samples of Triomphe de Gand, Wilson, and Hooker, and one basket Early Purple Guigne Cherry, from Joseph Harris, Rochester.

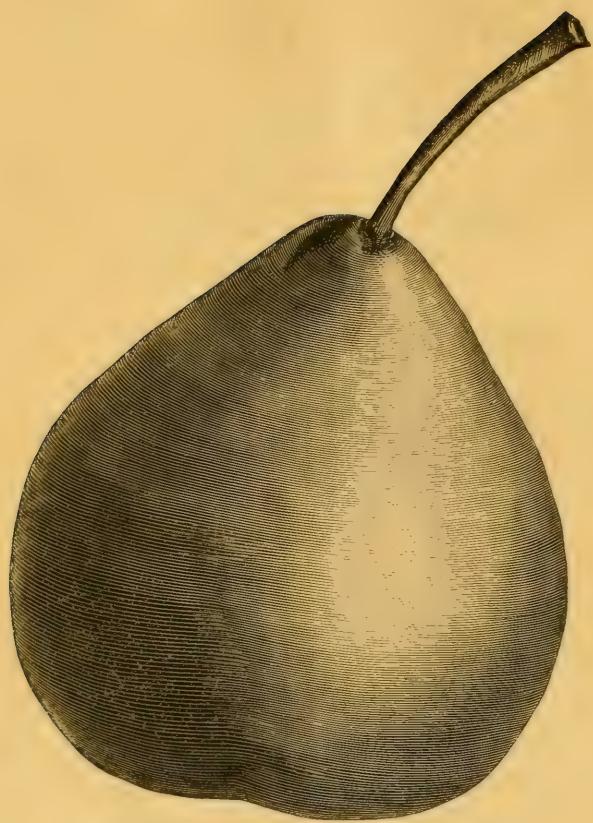
Mr. Moore, of Rochester, exhibited a seedling strawberry, which in size, form, and flavor, is something like the Triomphe de Gand.

The following named gentlemen were appointed as delegates from the Society, to attend the meeting of the American Pomological Society, to be held in Boston, Mass., on the 17th and 18th of September next: Joseph Frost, of Rochester; W. P. Townsend, of Lockport; E. W. Sylvester, of Lyons; S. N. Hollins, of Syracuse; T. C. Maxwell, of Geneva; E. Moody, Lockport.

The following delegates were appointed to attend the meeting of the New York State Agricultural Society, to be held on the 30th of September next: E. Moody, of Lockport; H. L. Langworthy, of Rochester; S. B. Gavitt, of Lyons.

The Society then adjourned to meet at Rochester on the first day of the State Fair of the New York Agricultural Society.





*JALOUSIE DE FONTENAY Y VENDEE.*

Drawn and printed for the Horticulturist.

THE ]

# HORTICULTURIST.

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VOL. XVII. .... OCTOBER, 1862. .... NO. CXCVI.

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## *Hints on Pear Culture.—I.*

WE have already intimated that we purposed devoting a portion of our space to the cultivation of the pear. There are many among our readers who make the pear, especially as dwarfed on the quince, an object of special attention. There are many more who are for the first time turning their attention to it, who need and ask for information in regard to its culture, and it is a part of our duty to satisfy their needs as far as we can. This we propose to do in a plain, practical manner, so as to give our remarks a real value. As in our Hints on Grape Culture, we shall give simply the results of our own experience, describing the various operations and manipulations just as we have been in the habit of doing them. In this way, we may perhaps make plain to the reader some particular points of culture which he has failed to understand from the writings of others. The chief reason why some books on horticultural subjects are obscure, and give an "uncertain sound," consists in the fact that the writers, having little or no experience of their own to rely upon, cull that of others without the ability to discriminate between right and wrong practice. Others, lacking self-confidence, prefer to give the experience of others to their own. Hence it often happens that some little, unpretending book, giving the writer's own experience in a plain way, contains stores of useful knowledge sought for in vain in its more pretentious rivals. Very few men have the ability to describe lucidly the practice and opinions of others; indeed, a man is very happy if he is able to explain clearly to others in writing even his own experience; it is a gift vouchsafed to but few. It is plain to be seen, therefore, why many books fail to be valuable to the novice who has every thing to learn. Success would, undoubtedly, be greater if each writer would confine himself mainly to his own experi-

ence when writing on practical subjects; if he has no experience, then he is clearly the man to keep profoundly silent, and learn, instead of wasting precious time in attempting to learn others. But even though some good books may be found on a given subject, that is no reason why others should not be written; because very few men will be equally well understood by all; and, in addition to this, there are differences in practice and constant improvements in the details of culture, which make new books indispensable to a fair record of the progress of the age. If this were not so, the press would find little to do. Arguments of this kind might be greatly multiplied; but they are not necessary for any purpose we have in view at present. It is sufficient for us that our readers want knowledge of any kind, to determine us to furnish it to the best of our ability, without stopping to ask whether they can find it elsewhere. The hope of obtaining such knowledge is their chief inducement for subscribing for any periodical.

Then, again, pear culture is an important part of the productive industry of the country, and requires all the encouragement we or any body else can give it. While it is a source of profit to those who pursue it, it is equally a source of health and gratification to the community at large. It is true that the profit of pear culture has been questioned by some, but, in our opinion, without any sufficient reason, as we hope to be able to show. We have no doubt at all that it is, when properly pursued, among the most remunerative branches of horticulture. That all have not succeeded, or succeeded as well as they might, is not to be denied; but their want of success may easily be traced to its proper source. If, in any thing we may say, we may be able to make pear culture plain to the understanding of even a few of the many who are seeking to learn, we shall have no cause to regret the time and labor devoted to the subject.

We purpose treating of the pear as a standard, as a dwarf, and as grown in pots. Beginning with the tree at the bud, we shall follow it to full maturity. These articles will occasionally alternate with those on the grape.

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#### LANDSCAPE ADORNMENT. No. XXVI.—ROADS, No. 5.

BY GEO. E. WOODWARD,

C. Civil Engineer and Architect, No. 87 Park Row, New York.

HANDSOMELY located, regularly graded, and well-constructed roads are chief among the attractions of a fine country place, and constitute one of its most effective improvements. When well done, they are done for all time, and afford a degree of satisfaction which no inferior work will compensate for.

It is highly important, in making ornamental roads, that its principal points of beauty should be well developed, as in the mere matter of construction the expense

would not differ on an ill-chosen line awkwardly laid out, and one that embraces all the good points the ground will admit of.

The nice adjustment of curves and the regular distribution of grades give an artistic polish that is wonderful in effect, and surprising even to those who are not novices in such matters, but who have not seen the beautiful results of engineering skill. To know precisely the position, the direction, the grade, the amount of earth work, and the cost of an ornamental road, before a shovel enters the ground, is always desirable to one who sets about making improvements in a business-like manner ; and as he can know thoroughly all these things in advance, *if he has a wish to know them*, the opportunity is afforded to make every change that taste or means would suggest, without the necessity of doing the work over twice, or trying experiments in moving earth to find that which is most beautiful. The results of engineering practice are of the most absolute character, and what a road shall be in every respect, in use, in appearance, etc., is thoroughly known to him without the necessity of moving a sod ; and however impracticable his work, when laid out, may appear to an inexperienced eye, it does not fail in its final finish to give the most gratifying results. Some of the most pleasing portions of our practice in road building has been in the very agreeable disappointments produced by fulfilling every promise we have made relating to the final effect, beauty, and expense, when, during the process of construction, all appearances were against us.

What is true in road building is equally true in other departments of landscape art, which, if properly and judiciously planned and studied in advance, would obviate not only the almost certain blunders that are made, but the heavy expense attending them. It is no uncommon thing for one who proposes to spend \$10,000 in embellishing his country home, to end with an expenditure of \$30,000 ; and he who means to go as far as \$30,000 spends perhaps \$30,000 more, and “then comes to himself, and confesses the hobby is over ;” so many mistakes, so much wasted money and time, that it becomes disagreeable to contemplate.

There is no economy whatever in doing any thing in a cheap manner ; “what ever is worth doing at all, is worth doing well,” and it is better to progress slowly and surely than to execute improvements imperfectly. A judicious choice in making the principal roads on a country estate pretending to display evidences of refined taste, would not stop short of first class workmanship and material, because a well-made road does not require that expense in annual repair, is easily kept in fine order, free from weeds, and is always a source of gratification to the owner. Those who do not place much importance upon a neat appearance, or wish to go beyond the truly practical, can not appreciate the pleasing impressions to be made by a finely graded, hard, smooth, handsome drive. Nothing else should be tolerated in a place of any pretension. The graduation and alignment of roads of all classes should be carefully studied, as all the principal points

of their attractiveness, except in surface and keeping, are embraced in their direction and rate of ascent and descent.

The construction of a first class roadway is the same whether the alignment and grades be handsomely and artistically adjusted or not; and if these be well done, there is an added beauty that no elaboration of surface or care in keeping will compensate for.

It is quite necessary in some sections where stone or other road materials are scarce, or where close economy must be studied, that the road bed should be entirely on the earth, and the inconveniences and untidiness of soft and muddy roads submitted to. Thorough drainage will in many cases remedy to a great extent such evils, although it can never entirely alleviate them. All roads of whatever character, passing over ground naturally wet or retentive of moisture, should be thoroughly underdrained; this is one of the vital principles of successful road-making, and the money and time devoted to such purpose can never be reckoned as misspent.

From a natural earth road we can advance through all degrees of covering until we reach that which fifty years' experience shows to be the best. We can improve the surface of an earth road, if it be clay, by laying on sand; of a sand road, by laying on clay. We can use coal ashes, wood ashes, and charcoal to advantage; scoria, furnace slag, and the different classes of gravel. Then we can advance still higher in the scale of excellence, and make use of different methods of making stone roads. We can get rid of money pretty freely by adopting the common home-made plan of making roads of boulders and field stone dumped into a ditch eighteen inches to three feet in depth, and flatter ourselves at the same time that we have got rid of the stone. We can hand-pack fractured field stone to a foot in depth, cover the same abundantly with gravel, and get a good and expensive road. We can use the irregular size spawls or chippings from quarries, more particularly those found where the New York Belgian pavement is quarried; and these, covered with gravel or other good binding material, will make a good road; or the so-called gravel obtained from the limestone quarries on the Hudson makes a good covering by itself, if the larger pieces be raked to the bottom; and as a binding and finishing material over a course of evenly broken stone, is for an ornamental road on a private estate one of the most beautiful and desirable that we have met with. The class of road above all others that fulfils all conditions of excellence combined with a true system of economy, is a modification of the McAdam system. This consists in placing upon a properly prepared road-bed broken stone of an average size of two and a quarter inches cube, to a depth not exceeding six inches; then rolling the same thoroughly with a heavy roller, in such a manner that the single stones can not be detached or picked up; over this, as a binding material, and for the purpose of giving at once a smooth finish, put from one to two inches of gravel, which must also be well rolled, and is best done after a good rain.

The advantages of building a road in this manner are as follows: the earth excavation is very much reduced, as the total thickness of the road metal and binding need not exceed eight inches, and may be of no greater depth than six inches; the least possible amount of stone is used, which is desirable where stone is not plenty, and where stone is abundant there are cheaper modes of disposing of it than burying it in road beds. The stones being all of equal size, none will work up, as is the case where stone of different size are used; the stone being fractured and angular, finally unite and become a compact, impenetrable body. It improves by age and use, becoming better as years go by; less weeds grow in it, and it requires less labor to keep it in first class-order. It can not wash on steep grades, and if properly made it is impossible for surface water to gully it; frost can not affect it, as its action is distributed uniformly on a mass composed of hundreds of smaller particles, each one of which yields slightly. The use of the roller in the spring is an effectual remedy for the action of frost on a road of this character. It costs less money to build a road in this manner than to build a first-class, substantial road in any other way. It is the simplest form of road to build, the specifications for which can be easily understood. It has been tested for a long series of years, and under all conditions of use and exposure. We have adopted this plan for several years where first-class work was desired, and with the most gratifying success. One experimental road built four years ago, the total thickness of broken stone and gravel being but five inches, has, with constant use, remained in all seasons firm, dry, and smooth, and the cost of keeping it in polished order has been literally nothing. We have just finished two roads on the Hudson, upwards of 1,600 feet long, having a layer of broken stone of uniform size, two and a quarter inches cube, and six inches in thickness, covered with a layer of the Haverstraw limestone gravel one and a half inch to two inches thick. We can safely say, in the very extensive range of our experience, that, outside of the Central Park, there are no ornamental roads possessing so many strictly first class principles—hard, smooth, durable, beautiful, and economical.

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### WESTERN PRAIRIES.

BY B. A., PASSAIC, N. J.

WHY are they not forests?

I have not seen as much of the prairies, as appears to have been the case with the correspondent in your August number. But I have drawn certain conclusions from my limited knowledge that may be worth printing.

There is a remarkable stratum of sand underlying the limestone rock, and extending over a large district on the Upper Mississippi. In this sand is the remarkable cave near St. Paul, Min. The largest chamber I estimated to be 70 x 40, and

18 feet high, oval in plan, and arched like a tortoise shell. It has so little tenacity that sand swallows build their nests in it. It is readily detached by the finger nail, when it resembles sea sand. But it approaches so nearly to sand-stone rock, that it supports itself in the form of an arched roof in this cave. The same stratum is found at Fort Snelling. At the falls of Minnehaha it is worn away under the projecting rock, so as to form a gallery under the falls from side to side. It is found under the rocky cap at the conical hill called "The Lone Mound," in Wabashaw County, Min., and thence dug out for making mortar. It is said to be found under the rock when digging wells at Janesville, Wis. I suppose that it can be found any where in this district along the bluffs.

The geological position of the prairie about Fort Snelling, and the Falls of St. Anthony, etc., is above the upper limestone rock. The prairie in the valley of the Zumbaro, in Wabashaw Co., Min., is below the upper limestone rock. This valley is several miles in width. The soil when wet resembles black city mud. The earth is composed of much lime mixed with other drift. It is based on magnesian limestone. The few trees have large roots and small stems. The bluffs have full size trees in abundance.

I infer, that the rank vegetation on these prairies, when fired, destroys the trees, while that on the bluffs only prunes them, as there is not sufficient for destruction.

Thus, the early German settlers in the Lebanon valley, Pa., chose the gravel land on account of the timber, because in their fatherland, timber was very valuable. The limestone land adjoining and running parallel, was a treeless prairie. The relative fertility may be judged by subsequent prices. The gravel land some years since sold for about \$35, while the limestone land sold for \$100 to \$120 per acre.

Thus, also, about forty years since, an extensive white cedar woods on the Newark meadows was destroyed by fire, and now there remains nothing but a treeless prairie.

Hence I infer that the absence of trees in these cases indicates excessive fertility. But we must not thence infer that "prairie," although French for *meadow*, is synonymous with fertility; for as used at the west, it simply signifies "treeless," and this at times arises from want of fertility. Thus on the railroad route from Madison to Prairie du Chien, there is a sand prairie of small extent, where the superincumbent limestone appears to have been washed away, leaving the substratum of sand exposed, in places, without mixture with fertilizing ingredients; and the vegetation is not greater than near the sea-shore. So, also, in the fertile rolling prairies, small hillocks are found with scanty vegetation.

It is also stated that there are large districts in the neighborhood of the Rocky Mountains, that are without trees, and almost without vegetation, in consequence of the excess of alkaline salts.

But in some of the level prairies, such as those surrounding Chicago, the absence of trees is probably due to fire, since there are some trees that will grow almost

in the water, and I judge that these prairies are less wet than the cedar swamps on the Newark meadows, and other cases of beech wood.

[Any facts pertaining to the prairies can not fail to be interesting. B. A. has examined them geologically, and we are obliged to him for some of his valuable reminiscences. We attach much value to them, and should be glad to have more of them.—ED.]

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## VENTILATION OF GRAPERIES.

BY J. S. HOUGHTON, M. D., PHILADELPHIA.

THE necessity of more constant and perfect ventilation in houses devoted to the cultivation of the vine, has of late commanded the attention of some of our most skillful grape-growers, and has led to some improvements in the construction of vineries, which will no doubt be of great service to gardeners. In England, where the atmosphere generally contains much moisture, very free ventilation has always been given to vineries in moderate weather; but in this country, where we have much hot, dry wind, we have been compelled to sacrifice our ventilation in order to retain the moisture in our grape-houses, often, no doubt, to the great injury of our vines.

The object of the present article is merely to call the attention of grape-growers to the scientific reasons which demand more constant and perfect ventilation than is ordinarily given to American graperies, and to suggest some means of accomplishing this object.

It is well known that leaves absorb from their under surfaces, and transpire or evaporate from their upper surfaces. Now, in a house which is not provided with sufficient ventilation, by a gentle current of fresh air passing through the viney, and where a moist, heavy atmosphere is maintained, the function of transpiration from the upper surfaces of the leaves must be, in a great measure, impeded, and hence engorgement of their tissues must take place. If the border be moist, the sap will rise with great rapidity and force, and the effete fluid matter, which ought to pass off by transpiration, must pass very slowly, if at all, to the serious injury of the foliage.

Again, the pure natural atmosphere was made for plants as well as man, and any great adulteration or change of its chemical constituents, renders it poisonous to vegetable as well as animal life.

Plants, by their leaves, absorb carbonic acid gas, and discharge oxygen; but although carbonic acid is the natural food of plants, they can not exist in the presence of an unusually large proportion of it, any more than man, who delights in

oxygen, can endure a very great increase of that gas in the atmosphere without injury, or even the destruction of life. Carbonic acid gas benefits plants only when it does not exceed one-twelfth the bulk of the atmosphere, though one-twenty-fifth is a still more favorable preparation.

In vineeries, early in the spring, when little ventilation is permitted, is it not probable that chemical changes in the atmosphere, very injurious to the vines, are often produced by unthinking gardeners, who take little heed of the great natural laws above-mentioned? The inside portions of vine borders frequently contain large quantities of carbonaceous matter in a state of decomposition, giving off carbonic acid gas with great freedom, and loading the unchanged atmosphere with a poisonous proportion of that gas in a few hours. Sulphurous acid gas and ammonia, which are also often given off from the composts used in graperies, are equally as destructive to plant life, when in excess, as carbonic acid.

Oxygen gas, in large proportion in the atmosphere, is also highly injurious to plants. The change of color, which is seen in ripening leaves in autumn, is said to be due to the absorption of an excess of oxygen.

Hence it has been set down as an axiom in horticulture, that, other circumstances being favorable, those plants are always the most vigorous and healthy which have the most liberal supply of pure natural air.

Another remarkable fact in the physiology and chemistry of plants is this: that flowers and fruits, *unlike leaves*, absorb oxygen and give out carbonic acid quite freely, at all periods of their existence. Leaves, it will be recollectcd, as a general law, absorb carbonic acid and emit oxygen. The action of flowers and fruit, it will be seen, is just the reverse. In ripening fruit, especially, carbonic acid is very freely given out, while oxygen is absorbed; this is the case even in, fruit plucked from the tree while it is yet unripe.

These operations of nature are so delicate and complicated that man can not hope to imitate or regulate them, in an atmosphere of his own creating; and hence it follows, that only by free and constant ventilation can we supply to the vines that perfect and healthful atmosphere which has been provided for them.

But how shall we be able to supply a constant current of fresh air to our vineeries, without too great a loss of interior moisture and danger of mildew? I answer, that some of the most successful vineeries I have ever seen were very rude structures, the sides being constructed of loose boards, with numerous crevices for the admission of bottom air, and much ventilation had been given, by *accident*. In England, at the present time, great efforts are being made to introduce into vineeries constant currents of fresh, warm air, by passing the air over heated surfaces. In this country, the suggestion has been made by Mr. Saunders and others, that constant top ventilation may be given in quite cool weather, day and night, without danger, and that front or bottom ventilation may be given by covering the ventilators with coarse flannel, or loose woolen cloth, which, if kept constantly wet, would be all the better, admitting a steady supply of fresh air, and promot-

ing ventilation without creating any injurious draught or currents of air. The practical application of the principles stated, I leave for further experiment and discussion.

[The subject of ventilation, we apprehend, is a matter of more moment here than in England, owing to a marked difference in our atmosphere. There is a wide difference of opinion on this subject even among good grape-growers. While some are agreed as to the extent to which ventilation should be carried, they are by no means agreed as to the best means of effecting it. This is an open subject which can be profitably discussed, and we invite attention to it. We shall go over the subject in good time, simply remarking now that we regard top ventilation with much favor. Dr. Houghton, of course, will follow up the subject; he has left it at a provokingly interesting point.—ED.]

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## GLEANINGS.

BY E. H. C.

"THERE are," said Bernardin de Saint Pierre to J. J. Rousseau, "more than five hundred modes of looking at Nature." "Yes," replied Rousseau, "and none of them true."

Naturalists are apt to be like that King of Siam who, after a long series of observations in the hot climate where he lived, decided that water was always, and in its own nature, a fluid: a truth which was regarded as demonstrated beyond dispute until a traveller ascended the mountains of Ava, contiguous to Siam, and there encountered some philosophers who declared water was only a fusible crystal—a rock which heat alone could dissolve. O naturalists, you also have your mountains of crystal!

The world about us is all harmony, of which we can perceive only a part. The Cephisus that watered the gardens of the Academy has disappeared with the woods of Mount Hymettus. The old Scamander has vanished with the cedars of Mount Ida, beneath whose shade it had its source. The climate of Italy was aforetime milder than now—less relentless in its heat until the destruction of the forests of the Tyrol. He who cuts down a tree destroys a colony of insects, a home or haunt of many birds, a source of food to quadrupeds perhaps, or even to man. The plantain-tree that shades a fountain or hangs over the marshy borders of a stream, is a beautiful object. Between the river and the trees there is a harmony. The Persians were scourged with pestilential maladies from their marsh-bordered rivers until they brought the plantain-trees to their aid. "There has been no epidemic at Isfahan," says Chardin, "since the Persians adorned with such trees their rivers and gardens."

We may observe, too, the harmony of colors. Raphaelle was no such colorist as we find the sun to be. As the winter departs the modest violet first blossoms beneath a vail of leaves. This modesty means need of shelter. Protecting leaves radiate back upon the fragrant little flower all the heat it gives out. As the snows disappear, blossoms of other flowers open, which display themselves more boldly, but you will observe that they are blanched, or nearly so. In the transition from the last snows of winter to the first blossoms of spring, the harmony of color is preserved; hillsides and orchards are laden with a delicate white, varied rarely with the pink, as in the flowers of the almond. Petals of the apple blossoms floating on the wind resemble the flakes of snow so lately seen falling through the air. As the warm season advances, the colors deepen until we come to the dark crimson of the autumn flowers, and the brown of the autumn leaves. This change is meant not only to be beautiful; it has its use and meaning. Why are the first spring flowers all white, or nearly so? Because, while the winds are still cold, and the sun only moderately kind, a flower would be chilled to death if its heat were radiated rapidly. But radiation takes place more freely from dark colors; from black, from the strongly-defined greens, and blues, and reds. In the hot weather flowers and leaves so colored cool themselves more rapidly at night, and form upon their surface the refreshing dew. In the early spring there is little need of dew, and consequently of facilities for cooling. The delicate spring flowers are, therefore, of a color that is least likely to encourage radiation. For the same reason, because white substances give out least freely the heat they contain or cover, arctic animals are white, like their native snows. For the same reason, too, the snow itself is white. When the cold becomes intense, snow falls, and lies like a fur mantle upon the bosom of the earth. If the snow were black, or red, or blue, it would still allow a portion of the heat to escape, which is now retained under its whiteness. The colors even of men darken in hot climates, and in the hottest they become quite black. Black substances give out heat most freely.

In regions subject to almost incessant cold, a short summer produces flowers of extremely vivid coloring. The summer, although short, is fierce, and the plants radiate rapidly that they may escape destruction. The dark verdure of the northern pines would cause them to lose heat with great rapidity. To compensate for this, they are found growing in a pyramidal form, which catches and retains a cover of snow so cleverly as to protect them during the severe winter season. Birches that grow in the same forests, rise among the pines like silver columns, not formed and shaped to retain a covering of snow like the evergreens, because they do not need it.

Surely we need be at no loss to discern, amid such harmonies and adaptations of Nature, that

“Such bounty is no gift of chance,”

and that, in spite of the sneer of Rousseau, there is a true and useful way of looking at Nature.

*The Parsonage, August, 1862.*

[Very pleasant gleanings indeed; chaste, classical, and full of food for deep thought. We should be glad to have more such "gleanings" among the "ripe and mellow ears."—ED.]

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#### INTERIOR VIEWS.—No. IV.—EXOTIC GRAPERIES.

BY FOX MEADOW.

MUCH has been written on the subject of border-making, and also very much about the gross feeding propensities of the vine. It is considered by men of experience in Europe as in America, that the vine must be supplied with the "fat of the land," and to this we say, AMEN. The vine borders of our intelligent fathers of a century ago did not cause them the troubles which are daily being presented to their should-be more intelligent sons! Their vines and their borders lasted for forty and fifty years—yes, ninety and a hundred! And who will say their fruit was inferior to ours? We say the samples of fruit produced by these men in those days were as good, and much better than the ordinary crops of the present day. Their bunches of grapes did not dwindle from two pounds to a half pound, in the course of three or four years of the vines fruiting, as hundreds of our graperies do at the present day; but they continued year after year till the half century rolled away, and the cultivator laid in the silent tomb, and still their vines lived, flourished, and continued to produce their average quality of fruit.

What was the cause of this? Had they the possession of some secret in border making that we do not possess? Have we not progressed in knowledge and chemistry sufficient to discover the identical elements that form every particle of the vine's organism, and that which is also needed to be ingrediated in the various particles of matter, so that "tartaric acid" shall be nicely blended with its saccharine? Who will say that we do not understand a sufficiency of the chemistry of the vine when we have special fertilizers in bags, and boxes, and bottles, from twenty pounds and upwards, so nicely compounded and adjusted that every element the luscious vine may require is *warranted* to be there? What secret did our forefathers possess? is the question. Common sense. And this was applied to the general principles of growth. Now, what are the general principles of growth? Let the intelligent mind go to the vegetable world and seek the answer to this question, and there he will find a universal law proclaimed, and so indelibly stamped upon every fruit-bearing plant and tree that the most

casual observer can not but recognize the law which governs and controls, and insures fruitfulness with health and longevity. This great principle our old grape-growers fully understood, and not merely understood, but practiced. Their vines or vine covered a large surface under their glass roofs, and their systems of pruning were such that insured not only heavy crops of fruit, but large annual *wood* growths. The progressive (!) system of the present day, by many termed scientific, reverses this order of things, and is endeavoring to cause the vine to produce all fruit and no wood growth. We wonder some of our scientific grape-growers do not contend that the few leaves their walking-stick grape vine produces are useless absorbents, and so remove them, that the bunches may become better swelled!

The general formation of vine borders fifty or sixty years ago was very similar to many of the present day, very loose, with a good deal of rich materials incorporated; but the vine-grower paid far more attention to the quality of the plant he planted than is done at the present day. We seem to care but little about *strength of roots*, so that the plant be bought cheap enough. Then, as far as the actual border making is concerned, there is little or no difference between modern growers and those of the "days of yore," but there is a vast deal of difference between the ground on the *outside* of their borders and that of ours, and this, with their difference of pruning and training, caused the difference in results. We have previously stated, that vines having strong, healthy roots when first planted, do not grow downwards, but grow through and out of rich borders. Now, this was just as much the case sixty or eighty years ago as to-day; but in England, where much attention is given to grape-culture under glass, the majority of vineyards, with fruiting-houses generally, are situated in the gardens, and the latter are as rich as it is well possible to make them. The vine roots are soon out of the borders, through the causes previously stated, but they get into ground equally as good, if not much better, for the ground in those kitchen gardens is constantly trenched and highly manured, and in the act of trenching most of the roots get cut with the spade, and the consequence of this cutting back of the roots would induce them to throw out a host of others, and so increase the feeding powers of the vine. With such resources as this, combined with a system of pruning that permitted the vine to produce annually a proportionate wood growth to that of its fruit, any vine will continue to yield for an indefinite period of time good crops and good fruit. This is the only secret resting with the famous vines of England. Take those old vines, and exchange their present system of pruning—that of laying in new wood all over the vine—for our present system of spur pruning and fruiting to the top of the rafter, and what would be the consequence? why an instant stoppage of all growth; roots, of course, as well as all the external parts. There is no extension of roots unless there is an extension or increase of size in all the external organism of the vine. A vine that has not

increased perceptibly, after becoming a year older, in the diameter of its trunk or principal stem, is not growing, but dying!

Now let us see for a moment how the majority of graperies are situated in this country. The Eastern and Middle States are the principal localities where the exotic grape is cultivated, and all know that the natural soils are poor enough. Many of these vineyards are erected as ornaments, and stand oftentimes on a poor, barren piece of ground, and others sometimes stand in the vegetable garden. Most of us know what our vegetable gardens are; and as to our "individuality," we would not object to walk a good many miles to see one that was really and truly—rich!

Now, where the natural ground that surrounds a vine border is poor, and the made border rich, the consequence is just what we have already stated, good roots are soon out of it and into the poor soils. The roots then, being in such poor conditions, together with the most miserable systems of pruning which are now being so generally advocated, viz., a system that directs you to labor with all might and main to crush and slaughter nearly every particle of new wood the vine endeavors to form, puts at once a stop to all growth! Growth then being stopped through ignorance of the fundamental principles of growth, men fly to the borders with a host of new-fangled ideas, which are based on no better grounds than their mal-systems of pruning and training.

In our experience there are but two fundamental points necessary to be understood in the culture of the vine, and these so simple, when the attention is directed to them, that many will wonder they had not seen them before. Yet simple as this may be, there is not a single author who ever wrote on the vine that seems to have recognized the simple truths on which are based the *law* for the healthful *continuance* though unlimited time of *growth* and productiveness. There is no productiveness without growth; nor is there any growth in an annual repetition of a given number of leaves, and the latter is all that is accomplished by *any* of the present authorities on pruning.

Now, in order to make our ideas clearly understood by the reader, we must show what we mean by growth; and as the roots are the principal agents acting in the office of growth, we will begin with the root first. The root, then, being long conduits with but little more than one mouth or spongiole attached to them, become strong and powerful in highly enriched borders, and this power gained through the rich compounds of the border carries the root almost directly to the outside and into whatever soils may immediately be in connection with it. Now what we propose to do is to change the character of these roots altogether, and institute a whole mass of fibrous roots, that shall be in, and work through, every square inch of soil in time, the border may contain, whether that border be one yard wide or twenty. If we can do this, then it will be pretty evident that whatever the border is composed of, the vines must feed on it, and the materials, which may have cost little or much money, will not be very materially wasted. Now

there is one great essential in vine border making, and that is, that the border be *open and porous*; and not so merely for one or two years, but that it ever remain so. All horticulturists agree on this point, although the materials they compose borders of is an utter impossibility for it ever to be so, with the exception, perhaps, of the first year. Now, then, says the reader, "What do you compose borders of, to so transform the character of the vine's natural roots, and make them similar to those of a currant bush, and at the same time warrant the border to ever remain open and porous?" Stop one moment, reader, before we tell you. We want you to brace up your nerves well, and if you have any prejudices, we want you to put them in your pocket, and let reason stand alone and untrammeled till we tell you, and then we shall not fear the result of your conclusions.

In answer to the above question, we say that the materials must be diametrically opposite to every thing which makes a border rich. We have but one objection to a border composed of *pure sand*, and that objection is this, which can be demonstrated by a practical experiment, thus: take a barrel, and fill it with sand from the side of some brook, (this being the purest,) and then take a few gallons of that black-looking manure water from the barn yard, and pour it on this sand, and you will find that this manure water will run out at the bottom, just the same color, and taste just the same, as it did before it passed through this sand. Now what inference do we derive from this? Why, that a border composed entirely of sand would not retain or hold long enough, the necessary elements the vine may require to produce wood and fruit. Yet, we all use sand in its pure state for rooting cuttings, and this because experience has taught us that cuttings will root quicker in it, make a larger number of roots, and of a more fibrous class, than in any other material we have yet discovered. So much, then, for sand. We will now take another barrel of sand, and instead of it being quite pure like the first, we will mix with it two or three handfuls of charcoal dust, and then repeat the application of the manure water. Now what is the result of this? Why, it is running out at the bottom of the barrel *pure water!* "Colorless?" "Quite so!"

Now, then, let us see what is to be done with this border of sand to make it productive; for, as just now stated, it is the material that will produce the most numerous class of roots, and also cause them to become fibrous, from the fact that, containing little of the food of plants, the plant is compelled to push out a numerous host of foragers to try to collect the means of its own existence. Now after we have compelled the plant to push out this host of foragers, we do not intend to be so unkind towards it as to let it die seeking the food it requires in a country that does not possess any. But with our sand experiments, we have found that the charcoal dust has been the means of retaining all the stimulating properties contained in this manure water, for nothing but the pure, white looking water came from out the bottom of the barrel. Now what is this charcoal?

Chemists call it carbon, and its principal office in the soil is to absorb, therefore it makes this sand in question retentive of manures ; and having achieved this much, it is all that is necessary to say of it now.

All the improvement, then, we wish to add to sand is, a sufficiency of carbon to prevent such fertilizing agents as may be placed *on it* from passing directly through it, and out of it, before the fibrous roots we have created can absorb it into the plant's system. Any carbonaceous matter, then, placed with the sand in question will answer the same purpose as pure charcoal, but we must take care that in using this carbonaceous matter in a state of *decomposition*, that we do not defeat the object in view, for the object in its use in the border is merely to *hold* in the sand, the *elements* we intend to feed the vine with. Now what can we select for this purpose to be added to sand ? There are several kind of materials which will answer this purpose, the common soil—leaf mould, but perhaps the best of all is muck. The latter dug from swamps in the fall of the year, and so exposed to the action of frost that it becomes thoroughly pulverized. Many persons, however, think that if muck is subjected to the action of the air even during the summer, that that is sufficient to sweeten it. Such persons are grossly deceived. It may sweeten this material, but the summer's balmy air will never disintegrate the particles. The "Ice King" must bring his frigorific influence upon the watery particles contained in this carbonaceous matter, and *burst its whole tissue asunder* before it becomes fit for the use of the horticulturist. When this is done, there is no better substitute for pure carbon.

Our next work is to proportion these materials, in order to make the border just such a border as shall always hold the roots of vines, and just such a border as we grow grapes in. The "Editor," however, is looking "grum" about the space we are occupying,

So we take the "hint" to run away,  
And live to fight another day.

[Fox Meadow becomes more and more interesting as he progresses. We perceive that we shall find in him a strong advocate of our favorite carbonaceous system. There is nothing like it.—Ed.]

(To be Continued.)

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### A CRYING EVIL.

BY A WEEPING SUFFERER.

A WRITER in the August number of your journal very good temperedly sets forth his grievances in having been imposed upon in the purchase of attenuated grape roots, which, after five summers' growth, only half cover his trellis. I beg

the privilege of shaking him (spiritually) by the hand, as I am also a sufferer, and can cordially sympathize with him in this particular. But there are other wrongs which we are called upon to endure, far more injurious than the one alluded to. His grape vines had the merit of being genuine. I can supply a case, where the unprincipled dealer furnished a bogus article, and did not scruple to receive the full value of the true one. I find that I am gradually getting my eye-teeth cut, and furnish this information for the benefit of your *young readers*. My neighbors think me rather green; but never mind, I know more than I did, and that is some compensation; the facts you can rely on.

In October, 1859, I was attracted by a showy advertisement in the *Country Gentleman*, of a firm in a Western city, offering grape vines of several varieties which were wanted by myself and neighbors, and we directly made up fifty dollars to form the nucleus of a couple of vineyards. The plants were packed and sent by a circuitous route, (not by the one ordered,) but reached us after having travelled double the distance, being stored in numerous places, and occupying as many weeks as they should have been days on the way; but came to hand at last, looking as we may suppose poor Navy Jack does, since his grog was stopped—decidedly dry. During the delay the planting season having passed, we heeled them in. The following spring, 1860, they were carefully planted in the ground prepared for them in the fall, and, to our astonishment, three fourths of them grew. My share of the plants were eighty Dianas, which I prepared to set out and cultivate on Bright's method; accordingly a bed was dug 12 feet wide, 3 feet deep, and 100 feet long, the hard pan carted off, and its place supplied with good meadow sods, top-soil, muck, and compost previously prepared, consisting of road washings, muck, ashes, and rotted manure well incorporated. I felt as if I had done my duty when I had thus prepared the bed, and had set each plant with my own hands, spreading the roots, covering in the most careful manner, and placing a good cedar stake to each. The growth of the first season was small, but when, in the fall of 1861, I cut each attenuate plant down to three eyes, I experienced a degree of satisfaction which only a successful cultivator can enjoy; but alas! to experience a sad disappointment in the future. The ripened wood was preserved and cultivated since, to increase my plantation, and has produced hundreds of strong plants of the What-is-It grape. In 1862, I had many promising bunches of grapes; the vines were cultivated, trained, and pinched on the most approved plan recommended by your journal. I soon began to see that they did not look like other Dianas; still my faith held on, as they grew well. About the 20th of July, the fruit being small, and shaped like a bird's egg, became mottled and of a dingy brown, and has remained so up to the present time, September 15th, hard, sour, and unripe, with a dogged tendency to remain so to the "bitter end."

Now, Mr. Editor, what am I to do under such circumstances? what would you do? Is it my duty to submit to this, and other ills that horticulturists are heir to? or shall I publish the names of the villains that have done this great wrong?

deprived me of my labor and money, and wasted three years of my precious existence, which no sum of money can ever replace ; or shall I take the law ? My nature is pacific, with a spice of the belligerent, which I shall retain until I get your opinion. Probably such things are not new to you. I know they occurred before, and that many people have put up with them, rather than engage in a contest with an unprincipled dealer. Numerous instances of frauds by nurserymen have come to my knowledge. I have in my eye an apple orchard ; the trees were set some years ago, and many have borne fruit, not one of which are true to name, and many are the inferior and discarded varieties. A garden, in which are fifty or more dwarf pears, many of which are winter pears, though labelled Doyenne d'Eté, Beurré Giffard, Bloodgood, Tyson, etc., and some of which are of the old discarded sorts, that were put in without orders by the nurseryman, as being of his "own selection." A most gross and unpardonable fraud, which a dealer in any other business would not dare to perpetrate, and which would subject him to an arrest for false pretences. I can cite a grape house where thirteen different names were furnished for as many grape roots by the *honest* dealer who raised and sold the roots, and all produce the same fruit. In the same grounds are dwarf apples handsomely labelled the Tompkins County King, producing a small yellow fruit, ripening early in August ; the Early Harvest, a red sour apple, not yet ripe, or likely to be for a couple of months, and others of like character.

Now the question arises, are these the result of carelessness, or direct fraud ? The parties alledge that the mistakes were made by employees, incompetent persons or laborers. Have they a right to employ such help, and make their customers suffer for it ? No ! *qui fecit per allium, fecit per se*, and the men who make themselves rich in the business are the culpable parties, and should be made to disgorge in every instance and pay stoutly in damages. Nurserymen have a character at stake, and it is their duty to insist that frauds, whether by intention or mistake, should be corrected—with smart money. I am willing to submit my grievance to a jury of respectable nurserymen, and I suggest that at the fall meetings they organize a self-protecting association, admitting none who have been known to be fraudulent, and expelling those who hereafter become so. They could also appoint a committee to investigate and assess damages, in such instances as I have named above. A black book to contain the names of such nurserymen as are habitually fraudulent, would be of great value to the public, and it would make the careless look sharp to avoid having their names registered as such, as a warning to the rest of mankind. What does the fraternity say to this ? Pope says, "an honest man (meaning a nurseryman no doubt) is the noblest work of God." Let them become less rare.

[A "Sufferor" has painted his grievances in strong colors, but none too strong. We have already called attention to this disgraceful feature of the nursery busi-

ness. We are glad to know that there are not many nurserymen who will allow such a grave charge to stand an hour against them. Still, there are some, and there is no use in denying it. No honest man will allow trees to go from his nursery under such circumstances; neither will he hesitate a moment to make full reparation for the carelessness and blunders of his employees. A man who knowingly commits such a fraud, should be compelled to make full compensation, either by the strong arm of the law or the fear of public exposure. Our advice to you is, to compel the parties by legal means to make full and ample restitution for the loss of your money and labor. Every honest nurseryman will thank you for it, as will also the community at large.—ED.]

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## RURAL ARCHITECTURE.—No. II.

BY COGNOSCO.

WHEN one contemplates building, and has put his thoughts and wishes into a tangible form, the leading question asked is, how much will all this cost? for what price in dollars and cents, without extras or additional charges of any kind, can this dwelling be erected for, in a good and workmanlike manner, in accordance with plans and specifications, and satisfactory to the owner? This is precisely the plain English of what a business man wants to know; for we hold that it is right and proper, that every one should look right through all the connected links and complications that require a considerable expenditure of money, and see that he lands carefully in the place anticipated. To start with the intention of disbursing \$5,000, and wind up with an expenditure of \$12,000, is not only annoying in a money point of view, but an impeachment of one's judgment and good sense, not pleasant to hear outsiders reflect on; for however much one might wish to shift the responsibility on to others, it is one of those things that time will always place where it belongs. As long as men consider the arts of designing and constructing buildings to be of no special importance, or that they are qualified, without instruction or experience, to practice them, expensive blunders will naturally result, and sooner or later it will be discovered that such wisdom is dearly bought. There are many, however, who prefer to manage their building affairs thus, and who can only learn more agreeable and less expensive modes by actual experience; some do it from ignorance, some from supposed economy, and others from the supposition that they are best qualified.

The design for a house or other building, and a plan of the interior arrangement of each floor, prepared by a professional man who makes such things the business of his life, is now very generally admitted by intelligent men to be essential; but the management or superintendence of the work by the party who has studied and designed it, does not seem quite so apparent. An architect pre-

paresthe drawings for a dwelling to cost \$5,000; now whether it actually will cost \$5,000, \$8,000, or \$10,000, in the hands of another superintendent, is an unanswered problem. A prevailing folly which we find very general, is to suppose that all men can build the same house, in all places, for precisely the same amount of money; and but few are willing to admit that they, of all others, are not the most competent to carry through the whole business of building at the lowest figure. Some must find out in the most expensive manner, that the profession of an architect, or the skill of a builder, can only be attained by long years of careful application.

What a house will cost to build is a question always asked with the utmost simplicity, and a prompt and reliable answer always expected, and if not forthcoming at once, gives rise to a suspicion that one's professional ability is not of the most thorough character. There are so many conditions to govern results in house building, that even an approximate estimate may fall very wide of the mark. Two houses may be built from the same plan, and we may also say, from the same specifications; one by day's work, and the other by contract, and they shall be so exactly alike in all respects when finished, that an unprofessional observer would detect no difference, and yet one may honestly cost just double the amount in money expended on the other; even the same builder may build two houses precisely alike in all respects, and yet the cost be quite unequal. On one site stone may be easily obtained, a sand bank on the premises, a running brook close at hand, saw mills, brick yards, and lime kilns within moderate distances and accessible by good roads. The other site may be quite the reverse in situation, or have some decided disadvantages in obtaining some very necessary materials. We once built a fine stone house where stone was abundant and close at hand, but all the lumber and brick had to be hauled thirteen miles over hilly roads; the cost of that house has nothing to do with the cost of a similar house in a different locality.

A competent business superintendent has a great deal to do with the cost of a house; one that understands all the tricks of every building trade, that knows the market well, and the value and quality of all building materials, and where inferior workmanship and materials can be used to an equal advantage with those of first class. To slight work and yet do it justice; to give it all the strength and endurance necessary, requires one of skillful acquirements. A mechanic may persuade a proprietor into many a long day's work, as it pays well to nurse good jobs when other work is slack, but an architect who understands such things would save the value of useless work.

The cost of a house depends on a well-studied plan; this plan does not consist alone in the arrangement of rooms, windows, doors, etc., but involves a careful study of the anatomy of construction. One may save by a proper distribution of timbers, as well as make a very great saving by the arrangement of rooms.

Good management is of the greatest importance, not only as a matter of economy, but as securing the best class of workmanship, and the most judicious use of materials. Good or bad management produces the same results in building operations as in war or any other pursuit.

To make a work on architecture sell, it is necessary that the cost of the houses must be given; it is a species of humbug the public demand and are willing to pay for, yet every architect has encountered those who have been thoroughly fleeced by book architecture; not but what the book was honestly and truthfully written, but that the would-be self-instructed builder was ignorant of the conditions of success.

One takes up a capital work on rural architecture, written perhaps ten or fifteen years ago, before the general introduction of furnaces, steam pipes, gas, baths, marble basins, etc.; they find a house that suits them, which the book says will cost \$6,000, and that is just the amount, by close figuring, that can be raised for building. The house is ordered, put in the hands of the best mechanic to finish all complete, and he goes ahead; he is unrestricted except by the book, and the author of it is a man of reputation. In the way of details perhaps nothing has been said; they are therefore extravagant in the use of materials, and elaborate in workmanship; as it is not considered good policy for a workman who has a good order to make suggestions calculated to decrease the amount of work. When the bills to the amount of \$6,000 have been settled, the house is found to be half finished, and an additional \$6,000 is necessary to complete it; less than one year's interest of which would have amply sufficed to secure the services of one who has spent the best years of his life to learn how to design and to manage work to cost a specified price.

When an architect says a house can be built for a certain price, it is to be understood that materials delivered on the ground shall not exceed an average cost, that the payments made are to be in cash, and that he manages the work. To hold an architect responsible or blame him for blunders in the cost of work that he designed and did not superintend, is manifestly unjust, yet it is a frequent occurrence. The cost of work is a question easily answered, when one is fully acquainted with all its bearings and has it under his control, but no one can say at what price a novice in building operations can execute.

[The class of persons had in view by Cognosco would very properly come under the old saw of "penny wise and pound foolish." We commend his remarks to all persons about to build. The remarks will hold equally good of landscape adornment.—ED.]

## HISTORICAL NOTES ON THE STRAWBERRY.

WE last month gave an extract from *Landmarks*, containing Dr. Grant's mode of culture and preferences as respects the strawberry. We now give another extract, containing some very interesting historical notes.

"If we look back for the early history of the strawberry as a fruit, we shall not find any account of it to attract our attention farther back than about two hundred years, which is not until after our native Virginia Scarlet had been received and cultivated in England. It has been mentioned, indeed, by Pliny and others, who wrote more than two thousand years ago, but it was not sufficiently prized to make it a subject of cultivation. The only kinds at that time known in Europe were probably the Alpines, including the Wood and the Hautbois. The former are very extensively spread in native wildness, and the latter appear to have come from Northern Europe through Germany. It was very early called Polish, but its history is not well ascertained.

"It does not appear that any other kinds were known in England until after the Early Scarlet was introduced from America, where different kinds are found wild from Hudson's Bay to Louisiana, and perhaps South America. Some accounts state that the South American kinds, known as Chili Pines, were from those introduced to Spain from England, and thence to her colonies, thus making it probable that the Virginia Scarlet is the type and original of all the Pines or Scarlets.

"Up to the beginning of the present century it had been in England for more than one hundred and fifty years, thought worthy of so much attention that it was not unfrequently cultivated in the gardens of the wealthy, but its merit did not give it rank among the most esteemed and indispensable fruits. Its natural history had been written by Duchesne, and published about the beginning of the last quarter of the last century, and the work is still highly valued scientifically, but is of little use to the simple cultivator. At the beginning of the present century begins the 'modern history' of strawberry culture, or, to speak exactly, at the year 1806; for in that year Michael Keens, a market gardener, produced from seed his Imperial. As he states, it was from the seed of the Chili, but it is generally believed from the Carolina Pine.

"From this time strawberry culture assumes a new interest, and Michael Keens takes distinguished rank among public benefactors, not so much for having originated two seedlings, the second in course of which was the type of all of our present excellent varieties; as because by long years of indefatigable industry and careful observation, he learned and made known the conditions of success in cultivation. He did not offer to the public ill-digested and impossible theory, loosely built upon a *melange* of circumstances pertinent and impertinent, but a carefully elaborated and systematic method, from which half a century has laid

aside nothing as useless, and to which it has added little except minuteness of detail, adapting it to different circumstances.

"For a long time his well-cultivated perceptions had taken cognizance of the excellences and defects of the strawberry of that time, as a fruit; and he had labored with indefatigable zeal in his efforts to make it better by the production of seedlings. By careful and judicious cultivation he produced the best possible fruits of those at command. From the best specimens of these he, through the same course, produced others, and from these, in the year 1806, came the Imperial, and from this, a few years later, the Keens' Seedling.

"At this time no generally admitted classification of strawberries was in existence, and the want of it was much felt. In the year 1824, a classification was made by James Barnet, which was sufficiently clear and comprehensive for the wants of the time, and it is now recognized by all writers on the subject, including Professor Lindley. He makes seven classes, as follows: 1st, the Scarlet Strawberries; 2d, the Black Strawberries; 3d, the Pine Strawberries; 4th, the Chili Strawberries; 5th, the Hautbois Strawberries; 6th, the Green Strawberries; 7th, the Alpine and Wood Strawberries. Two other classes have been thought of—the Surinam and the Chinese—but concerning these sufficient knowledge did not exist to enable him to state with precision their characteristics, and no one has attempted to do it since.

"This classification does not claim to divide them by any clearly drawn natural line, but only to lay away in boxes several parcels each containing a convenient number to take out for examination, so that we can recognize the *individuals* as subjects for culture, and not for any scientific contemplation of the relations of likeness or unlikeness which they may bear to each other.

"A natural division would be into Pines, Woods, Alpines, and Hautbois; the Pines comprehending in one great class, without any division that is constant or well marked, our esteemed strawberries for cultivation, and having our field strawberry for its type and original.

"Of these classes only three are of special interest to our present consideration; these are, 1st, the Scarlet, of which the Virginia is the type. 2d, the Pine. For the type of this class we may take Keens' Seedling, or of those that are now better known, Boston Pine, Triomphe de Gand, and Bartlett. 3d, the Chili. This does not include the one that Keens speaks of as furnishing the seed of his Imperial. Mr. Barnet considered that the Carolina Pine, and included it in the general class of Pines.

"This (according to him) true Chili is very distinct in character, having very villous or hairy leaves of thick texture, the fruit very large and pale, and insipid in flavor. The chief interest of this class consists in its having furnished one of the parents of Wilmot's Superb. With the Black Strawberries we shall have nothing to do, as the Black Prince is not made of that class

by its color, but is with the Pines. The Green Strawberry assimilates so nearly with the Hautbois, that we need only say that it is like it in flavor, and is rarely grown, and only as a curiosity. The Wood and Alpine Strawberries are sufficiently distinct for separate classes, but to the cultivator, at present, they are of too little consequence to occupy our attention. I think further acquaintance with the Alpines will teach us that they are worthy of attention for special purpose. The Hautbois Strawberries are so distinct from the other kinds, that it has been generally supposed there is a specific organic distinction that will not permit of inter-impregnation, although it is claimed to have been done both in England and in this country; but nothing within my knowledge has been produced that could perpetuate itself; therefore it has played only its own individual part in the history of strawberry culture, and the 'Prolific (or Hermaphrodite) Hautbois' of a much earlier date than that named, is still the best of its class; 'sweet with musky fragrance,' bearing its fruit well up from the ground, as the name imports. Of the Alpines, Red and White, little need be said, except that under proper treatment they produce a small autumnal crop, and never more than a small crop of very small berries under any circumstances. These are only valuable for their curiosity.

"The Chili or South American Strawberry had been for a long period in the European gardens, but only as an unprofitable occupant; its own stamens being so imperfect as to effect fructification but sparingly, and its season of flowering being so late as to render fertilization by the pollen of other varieties impracticable for a crop. In size it surpassed other varieties of the time, with firm flesh, but poor flavor. It was from a seed of a 'White Chili,' according to Keens, that he raised his 'Imperial,' or Imperial Black, in 1806. But Barnet of the London Horticultural Society states that it was from the White Carolina Pine. It was exhibited before the London Horticultural Society in 1813, and a fine colored engraving of it published in the Horticultural Transactions.

"Of the Scarlet Strawberries the best was Early Scarlet, which was no other than our present Large Early Scarlet, which had been introduced from America two hundred years before, and was at that time their best strawberry. And it is not ten years, nor perhaps half that, since many of our 'best cultivators' spoke of it as the best variety for general cultivation in America. This was in a measure true, for according to the prevailing ideas of cultivation it was best, for it will produce some fruit under a degree of negligence which would render fruitless those that now rank as our best varieties.

"The production of Keens' Imperial was but a step in advance. It was not high flavored, and only tolerably productive, but was much the largest and handsomest that had been produced, and it was the first that bore its fruit on stalks well up from the ground. It had a strong influence in leading others to plant, and seedlings innumerable were raised, and many of a better character than had been generally grown. Foremost among these, for the number produced, was Thomas

Andrew Knight, President of the London Horticultural Society. The best that he raised was named Downton, but this was so far surpassed by two others, that it has been forgotten.

"Mr. Keens continued to plant strawberry seeds, as he had for a long time done; for the desire of improvement was in him a living force that would not let him rest. He was soon most munificently rewarded by a seedling from his Imperial, which has since been known as Keens' Seedling, or Keens' New Pine. This was a very astonishing production for the time, and must even now be regarded as a first-rate fruit in habit, size, flavor, and productiveness, when under the special treatment which in our climate it requires. The London Horticultural Society immediately (1821) published a finely executed colored plate of it, which for truth and spirit I have never seen surpassed. The fruit and artist were worthy of each other, and the London Horticultural Society never conferred honor more worthily.

"About the year 1815, a kind called the Roseberry Strawberry was sent from Aberdeen in Scotland, which, from its late season in flowering, fitted it to become a good fertilizer of the Chili. Mr. John Wilmot, who used it for this purpose in 1823, exhibited before the London Horticultural Society specimens of fruit from a seedling of this parentage that was equal to Keens' in size and beauty, but not so valuable. About this time Mr. Wilmot also raised from Keens' Imperial one that was justly esteemed as valuable, which was named Wilmot's Black Imperial. It was afterwards known in England and this country under the name of Black Prince; and when circumstances were favorable, it was excellent in flavor, and productive, and much more hardy than its parent, but still sensitive and variable. Ross' Phoenix, an American seedling from Keens', was also much better for general cultivation in this country than its parent. The two were well calculated for field culture under good management, while both Wilmot's and Keens' needed the special attention of the skillful gardener, in consequence of their tenderness, resulting from foliage which, under ordinary circumstances, could not endure our scorching summer suns. I have not yet fully noted the part that Early Scarlet has performed, and by saying that none of its direct offspring has been greatly distinguished, I have apparently disparaged its importance. It will be noticed again, for although it is now rarely remembered, I think its office is not fully accomplished."

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#### SOMETHING ABOUT EGYPT.

BY S. C. SPAULDING, COBDEN, ILL.

HAVING been a subscriber to the HORTICULTURIST for the past two years, and never having seen any thing in it relative to this section of the country, it occurred to me to drop you a line relative to it; also to make some inquiries.

This is in about the same latitude as Richmond, Va. Formerly it was a densely timbered country for twenty-five miles around; but now an opening here and there caused by the sturdy strokes of the chopper, which relieves you from the monotonous view of an ocean of timber or tree-tops. This particular section appears to be a continuation of the Ozark range of Missouri, extending from the Mississippi to the Ohio River.

Here one accustomed to the scenery of New England, the majestic trees, the precipitous rocks, with all of the grand beauty which nature has bestowed upon that country—except the broad rivers and purling streams—for we depend mainly upon rain-water—such a one feels that he is at home again. It would be impossible for me to describe the country commonly called Egypt.

You have an idea, perhaps, from its name, that it is a low, rich country. There are places which are low; but then from these places it rises, table above table, until you get to an elevation, not a mile distant, of over four hundred feet. These points are frequent. From such a one I am now writing. The blue hills of unfortunate Missouri, the smoke of her steamers as they pass up and down the Mississippi, are distinctly discernible, although twenty-five to forty miles distant. To the southeast are the smoky hills of Kentucky, just perceptible to the naked eye.

The soil is a reddish clay, with a mixture of sand. It is the same to any depth which any one has penetrated. On this elevation there are some twenty-five acres of fine tillable soil, and around almost the entire extent are precipitous sandstone rocks. The soil is free from floating rocks; consequently easy of cultivation. The same soil you will find throughout this section.

The adaptation of this country to the growth of fruit trees and fruits of all kinds is not surpassed by the marvelous stories of California, excepting, perhaps, the grape. I saw in the spring a peach tree in bloom, which grew from the seed the year previous. Also an apple tree, or scion, in bloom the first year after it was inserted in a seedling of one year's growth.

Here are standard apple trees, perhaps of a dozen varieties of fruit, which were brought from Rochester, and planted four years since, fruited last year, and are now bearing large and finely developed apples, and will measure twelve feet across the top. These things and sights are new to me.

I have an early Crawford peach tree planted three years; it bore me this year over a basket, or half a bushel, of beautiful, high-colored fruit. The tree is large enough to have borne a bushel and a half. Its trunk measures six inches in diameter.

Pears grow to perfection. Apricots, quinces, and, in fact, nearly every variety of fruit does well, and more than well. The apples are so large here, that there has been quite a dispute about varieties, owing to that fact of size.

The grape, as yet, has proved a failure, excepting a few sorts.

The Delaware rots in some localities; the Concord has not rotted, as far as I

can learn. There are some here—large, beautiful clusters—perfectly healthy, and just putting on the color fully. These other sorts which are free—I can not tell them until they ripen more fully.

The strawberry is a prolific bearer in this region.

I fear I have tired your patience, and now to my questions.

[We are obliged to you for your interesting description of the “land of Egypt.” We are willing to believe it a marvellous country for some kinds of fruits. We have received specimens of well-known apples, but so altered in size as to be scarcely recognizable. That grapes will grow there we have no doubt, but all kinds not equally well. The time will come when grapes will be divided into kinds for localities and kinds for general cultivation. We are surprised to hear that the Delaware rots. This is the first intimation of the kind that we have heard of. Will you please assure yourself further on this point, and let us know the result? We are by no means tired; but as we have already answered your questions, we omit them here.—Ed.]

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#### CIRCULATION OF THE SAP.

THE last number of the *Gardener's Monthly* contains a very interesting article from Yardley Taylor on the “Circulation of the Sap,” from which we make the following extract:

“The theory of a downward flow of sap, as supposed by the first writers on vegetable physiology, is giving way, and the writers of the present day assert that there is no such flow. (See article ‘Botany’ in the ‘New American Encyclopedia.’) Theoretical writers, or those who copy from former ones, often advance the same theory; while practical men, who base their theories upon their observations of nature, reject it. Nurserymen who practice grafting, know that success can be had by inserting the graft so that the inner bark of the graft of the stock shall be in contact, so as to admit of the sap from between the bark and the wood passing upward into the graft between its bark and wood. There can be no other way for growth, as the granules of new wood only form between the bark and sap-wood, no where else, and this material for growth must come from below, for there are no leaves above to prepare the matter for assimilation, as the downward theory supposes. Budding, as practiced by nurserymen, is equally conclusive; there the bud only rests upon the sap-wood beneath the bark, and in no contact with the pores of the wood at all, only with the pores between the bark and wood; and if the top of the stalk is cut off, as is usual, it grows at once, though there is no part above from which a downward flow can come. Many more facts might be

mentioned, all leading to the same conclusion, but these, so well known to all who are acquainted with grafting or budding, may suffice; indeed, the evidence appears to me to be so conclusive, that I can see no reason whatever for a downward flow. It appears to me to be too much of a roundabout way to attain an object, to be consistent with what we know of the simplicity of nature's laws; they are always direct, and to be admired for their simplicity.

"If, then, there is no downward circulation, as I confidently believe there is not, the question recurs, 'what is the true theory of the circulation of the sap?' This, to my mind, is very simple and plain; whether I can make it appear plain to others, remains to be seen. Let us recur to facts generally admitted, and base our theory there. All writers on vegetable physiology, I believe, admit that water from rain and snow containing matters for growth is imbibed by the roots, principally by the spongioles or small rootlets, though I have little doubt that even the large roots imbibe some, as their bark is spongy. Among these matters, carbonic acid gas is prominent, and it is generally believed that a portion of this gas is imbibed by the leaves. This gas is considered the only source from which the carbon of the plant can be derived. Carbon, we know, is deposited in growth, and chemists tell us that oxygen is given off in the daytime. Other matters, as potash, &c., are believed to be carried into the plant in the same way; of these facts there is little dispute.

"Carbonic acid gas, however, must be decomposed, and we know that it is, but by what means, there is difference of opinion. Sunlight has been considered the agent of this decomposition, but of this there may be doubts. If there is no downward circulation, the gas can not be decomposed in the leaves, as is by many supposed. Further, we have no other evidence, than this supposition, that sunlight can decompose carbonic gas at all; nothing in my reading of chemistry would encourage the conclusion that sunlight can release oxygen from its compound. Some other agent then must be sought for, and we have one in electricity, that we know can effect this decomposition.

"The beautiful art of electrotyping is evidence of this fact. Here metal is dissolved by acid, making a compound of oxygen and metal dissolved in water, by the application of galvanism, which is only another form of electricity; the oxygen is given off, and the metal is deposited in its own form again. If electricity can release oxygen from this compound, why may it not from all its compounds? Oxygen is negative, while carbon and metals are positive. This presumption has much stronger grounds for its foundation, than that for the effects chargeable to sunlight.

"Electricity has been proven to greatly facilitate vegetable growth. If we erect wires, say ten or fifteen feet high, in an open space, and pass them beneath the soil where vegetables are growing, these vegetables near and above these wires will be larger than others at a distance. Here the electricity can add

nothing of itself to the plants; it must act by inducing greater activity in some principle of growth, and what principle can that be, other than the decomposition of the carbonic acid in the soil and vegetable matter within its reach, thus giving more carbonic gas to the plants? This is the only rational explanation that can be given, and it is to the point.

"Now let us apply these principles, founded upon facts. The carbonic gas being carried up in the sap, which is the water containing matters for growth imbibed by the roots, and this gas passing principally between the bark and wood, where most of the sap passes, and where it is needed most for growth, is decomposed by electricity exactly where needed, and deposited there, a small portion is deposited in the pores of the sap-wood, thus making it more firm, and converting it into heart-wood. The sap being deprived of its gas brought up from the roots, principally near the lower part of the trunk or body, is further supplied by that received by the leaves, and this passing down through the sap as it is known that this gas has a great affinity for water, would supply all parts, and will mix with it in all directions whenever it comes in contact with it. Trees and plants are as conductors of electricity from the earth to the air, and from the air to the earth. Every sprig, every point of a leaf, acts as a conductor for the fluid in passing. Some have doubted whether there is electrical disturbance sufficient to cause action enough to produce such an effect, but electricians have proved that the electricity of the atmosphere is very variable; that it is at its maximum at one time of day, and at its minimum at another. Hence when it is at its maximum in the air, the earth must be negative to it, and the earth will receive a portion; and when at its minimum in the air, the earth will be positive, and then give off a portion to the air, thus keeping up a current between the air and the earth. Electricity having an attraction for water, will pass through the sap of plants in preference, precisely where the gas is to be decomposed.

"Here then we have a theory for the circulation of the sap, at least for the requirements of growth; one that is plain and simple, yet meets all the requirements of the case; one that is based on facts that we do know, and but little left to conjecture. At the fall of the leaf in autumn the body of the trees has but little sap; the pores of the wood are mostly filled with air. During the fall and winter, whenever the earth and air are above the freezing point, the roots are imbibing moisture. Whether this is by capillary attraction or not I leave, but presume it is by that power, as water will penetrate every body not positively impervious, where there is less water. By the time that warm weather returns in spring, this sap thus lying in the pores through the winter, undergoes some chemical change, converting part into saccharine matter. This matter thus furnishes the nectar of flowers, and is conspicuous in early flowering trees like the maples, for instance, that blossom early. Almost all trees will furnish sap at the first flow that may be made into sugar, but some, as the maples, more freely than others. This first flow

of sap takes place in the winter often, when there comes warm days and frosty nights, and frequently when the ground is frozen; but the ground being frozen is no evidence that the tree and its roots are frozen, for living plants will resist a much lower temperature without freezing than dead matter will. The roots of trees are often far below the frost, and may be supposed to be a conductor of that temperature upward. As soon as the warm weather induces a full flow of sap, the saccharine sap is diluted and carried upward, and no sugar can then be made from the body of the tree. This full flow of sap fills every pore of the tree; and as the warm weather advances causes the bud to burst and the leaves to expand, and these then become the medium of giving off the moisture of the sap, leaving the matters for growth behind. Thus carbon, gums, rosins, potash, etc., are deposited each in its place. The philosophical editor of the '*Flores des Serres*,' of Belgium, says that the offices of the leaves are chiefly perspiratory, and 'that they will so be acknowledged some day.' Many others are coming to be of this opinion.

"From the great quantity of water known to be given off from the leaves of vegetables while growing, we may reasonably conclude that matter enough for growth is carried up by the sap to account for all we see, even supposing that the amount is small in a given quantity of water. The continual rising of this matter, and being left for growth, would first make it appear as milky, as I have observed in early spring on taking off the bark of oak timber; as it becomes more dense it would assume a jelly-like appearance, as I have witnessed in taking off the bark of apple trees, about the 20th day of the first summer month, to try to cure such trees of the bitter rot. Then, again, at the fall of the leaf, it has become firm wood, and at this season there is little water in growing wood, less than at any other time. This amount of water, however, somewhat depends upon the wetness of the season. In late summer and early fall, we often have dry weather, favorable for well ripening wood, but sometimes we have wet in the fall so as to start late growth; we then know that such late wood is not able to stand the winter safely, but is often injured, particularly if cold sets in early. Late growing plants are more liable to be injured in this way, than those that perfect their growth early. The oak and similar trees, that never start into second growth the same season, do not suffer in this way.

"We have reason to believe that the roots of perennial plants take in water as sap at all seasons, except when interrupted by drought or frost, either of which prevent it. Thus in fall and winter in mild weather, a supply is laid up for active use when the warmth of spring shall induce active growth."

## PRACTICAL PAPERS. VI.—PRUNING GRAPES IN THE GARDEN.

BY OLAPOD QUILL.

In my last paper I stated the manner in which grapes should be planted in garden plots and small pieces of ground, with a fair prospect of yielding fruit, if properly pruned and attended to as they should be in the future. The treatment of the grape vine, pruning, training, stopping the laterals, or “nipping in the thieves,” as they are called, and taking off the superabundant fruit, often deters many from planting the vine at all. There is so much charlatanry expressed by some concerning the manner of treating the grape, that many persons are inclined to think no one but a *professed* gardener can successfully cultivate the grape. Now this is not so, as my own experience in grape culture has convinced me that any one with common intelligence, and a wish to raise good grapes in their garden or border, can do so. “How shall the vines I have planted be pruned?” Simply by pruning in such manner that new wood may be grown every year for the next year’s bearing, and the old bearing wood removed, or cut away.

If you have planted your vines twelve feet apart, for a trellis, (as I suppose, you have,) and you wish to train them as uprights, upon the same, you will with a sharp knife cut in the young vines two or three eyes, till you can get two vigorous canes, ten or twelve feet long, branching say about twenty inches from the ground. Next, cut off these canes, leaving each one six feet long. Place these canes in a horizontal position, and tie them to the lower bar of the trellis. Every eye on these canes will, if healthy, send upwards the bearing branches.

Cut in every other one of these upright branches every year. As your vines grow older, and more vigorous, a second system of horizontal canes may be grown above the first. The trellis should be about nine feet high.

If your vines are grown by training to stakes, as in the vineyard system, you will then use what is termed the Bow and Spur System. By this manner of training, the young vines should be cut in two or three buds, till two canes are grown ten or twelve feet in length, which should branch about one foot from the ground. Cut off one of these canes just above the first joint, near the main stem. Remove carefully from the other stem all the side shoots, and bend it into the form of a bow, by bringing the extreme, or cut end, to the stake, near the main stem, and tie the same firmly to the stake with bass matting. The upper portion of the bow is to be tied firmly to the top of the stake in like manner.

A new cane will grow from the spur of the cane cut off, and will form your bearing cane for the next year. The next year you will cut off the cane that has borne you fruit this year, and this course of alternating you will practice every year. By this process of training you secure to yourself the new bearing wood, which is of so much importance, and which is, in fact, the principal object in pruning. The above has been the course of treatment pursued by myself, and

in most cases with good and *remunerative* success. If you are desirous of testing the truth or falsity of the above, you may be sure of one thing, your vines will always be in a healthy condition, and if the finest fruit the vine is capable of producing is not yours, I can not tell you the reason "why you will not get it." You most surely have used the means to procure it, and without doubt will receive the recompense of your labor. In some future number of the Practical Papers, I shall treat of the manner of "stopping the thieves," thinning out the grapes, and other matters relating to grape culture not important to the cultivation of the grape in small plots or gardens, enough having already been stated in these papers to enable any one who may wish it a good degree of success.

NOTE.—OLAPOD would desire the readers of the "Practical Papers" to understand that the omission of the Delaware grape vine in his selected list of vines, in paper No. V., was entirely accidental. He thinks it one of the best grapes raised.

Some little explanation may be deemed necessary by *some*, to the proper understanding of the use and quantity of the materials in the border. I give the quantity used by me from the written notes of my experiments, viz.: I placed in the trench for the drainage of the border, one bushel of oyster shells—cost of carrying home. Upon these I placed fifty pounds of beef bones, obtained generally for one dollar per hundred pounds. Upon these bones I place from one peck to one peck and a half of wood ashes: cost, twenty cents per bushel. Upon the ashes I place one quart of granulated or fine bone-dust, at a cost of twenty to twenty-five cents. Upon these latter I place six inches of good garden mould; and upon this mould I set out my vines, carefully spreading out the roots, and cover the same with a compost composed of one half garden mould and the other half scrapings from the road. I did not deem it necessary to state in my article that the soil would naturally wash into the bones and shells, and become partially incorporated with the mass, supposing that any one would infer the fact from a careful reading of my article. I intended to avoid all *confusion* of ideas, by the statement of a practical, repeated experiment, with me a successful one, the *truth* or *fallacy* of which any one disposed can try with an outlay to themselves not exceeding two dollars, provided they prepare the trench themselves. I will warrant this plan will prove successful, and after their vine has grown in this border two years, they will find it exceedingly hard for them to pull it up by the roots with their hands, so deeply and thoroughly will they have become incorporated with the composition of the border.

[Olapod's explanation does not render the matter clear to our understanding, if taken in connection with his former article. The quantity of each material used, as here given, is a considerable aid, but the sum total would fill but a small hole, "through whice and out of which," as Fox Meadow expresses it, a

grape vine would find its way in less than two years. Olapod directs a trench to be made four to six feet wide, and three feet deep, and filled two thirds full of oyster shells, bone dust, wood ashes, lime, broken bones, etc., over which is to be placed six inches of garden mould. Now suppose this trench to be twenty feet long, (and few will be shorter,) and we leave Olapod to calculate the cost of filling it two thirds full of the materials named. Our figures make it amount to a pretty round sum. When Olapod has furnished this calculation, we should be glad to have him make two or three other points plain, so that we can understand him fairly. We shall then have some criticisms for No. VI. As the matter stands at present, there is a wide difference between us. We are glad to know that the omission of the Delaware was accidental.—Ed.]

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### THE JALOUSIE DE FONTENAY VENDÉE PEAR.

(See *Frontispiece*.)

Our *Frontispiece* this month is a beautiful specimen of the Jalousie de Fontenay Vendée Pear, grown by Dr. Grant at Iona Island, from which we have the following description :

"The tree is uniformly vigorous and healthy, and not a very early bearer, but productive, and unfailing in its crops. It takes readily any desired form in training; the tree from which the present specimen is taken being goblet form, with a stem about two feet in length. Last season it bore about three bushels, and the present about four. Its fruit hangs with remarkable tenacity, and very fierce winds have but little effect upon it; but specimens taken off before fully grown ripen in the house without any deficiency of flavor. The tree is six inches in diameter one foot from the ground, and those that were planted at the same time, and grown as pyramids, are nearly the same size, but have not borne quite as much, although perfect in health, and handsome trees. Its shoots are pretty strong, rather upright, and fine olive green in color; sometimes greenish yellow, with some light specks. Petioles long and slender; leaves partially folded, curved, and finely serrate; remaining long on the tree; roots branching, fibrous, and very abundant.

"Fruit of medium size, or large pyramidal or pyriform, generally inclined, and broad at base; skin light yellow, and often retaining a little tinge of green at maturity on those that are grown in the shade; but those exposed to the sun have often a fine red and yellow cheek, with markings and patches of russet. The stalk is more than an inch long, a little obliquely set on the point, which varies from acute to obtuse, and without depression. The calyx is closed, with stiff segments, in a basin rather shallow. The flesh is very melting and juicy, slightly buttery, with a rather rich, pure, sugary, refreshing flavor. The brightest colored specimens are the richest in flavor, showing that some sunshine is of advantage to them. It ripens early in October. Without being of highest rank in flavor, it will be called good by every one, and is valuable."

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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OUR ADVERTISING COLUMNS.—We desire to call the attention of our readers to our advertising columns, representing as they do the energy and spirit of those who provide all that relates to the useful and ornamental accessories of a Country Home. To those who contemplate extensive operations in the way of planting, no more favorable opportunity could be presented. Prices are lower than they ever will be again, and our leading nurserymen are making it an object for those who wish to purchase, to purchase now. The value of our magazine is well understood by most dealers; it reaches a class who have money to spend, and who desire to be posted on such matters, and those who fail to let themselves be known, are those who make the most complaints about hard times. The self-interest of every nurseryman prompts him to use his influence to extend the circulation of all papers relating to his business; for in the same proportion that the community become educated to the higher enjoyments of country life, so does his business increase; fine fruits, fine trees, flowers, etc., are desired when their value is known. The refinement of country life, and the rise and progress of such pursuits as they sustain, are mainly due to the influence of the Horticultural press, the progress during the last twenty years being almost marvellous; and this will continue as long as the subscription and advertising lists are so well filled.

BUCHANAN'S SEEDLING PETUNIAS.—We are indebted to Mr. Buchanan, of Astoria, for flowers of his seedling Petunias. Those sent are all very beautiful, and some of them are quite unique, the markings being striking, and quite uncommon. A photograph has been taken of a group of them. If it proves to be successful, our readers may expect to see it. Mr. Buchanan is one of our most industrious and successful seedling growers.

DRUMMING OUT THE CURCULIO—BRANDY AND SUGAR.—A correspondent, writing from Indianapolis, gives us his latest experience with the Curculio. The means employed indicate an ingenious and practical mind, ever ready to appropriate the simplest appliances to a useful purpose. That lime is distasteful to the curculio,

we know very well, as it is also to many other insects. Those who are fond of "trying all things" will of course give this a trial. The lime may drive the curculio away, but will not kill it, which should be our chief aim. The "jarring" system, in this respect, has a special claim to attention, as the cureulio is killed, and the evil is lessened both to the individual and the community at large. In this connection, we would again recommend the formation of insect clubs in every community where fruit is grown. But to return to our correspondent. He writes as follows:

"I saved the crop of two valuable plum trees this year, with lime, applied as follows: I took a child's toy drum, (I did not take it from the child, though,) costing twenty-five cents; punched small holes in the ends, and bored gimblet holes through the wooden portion. Fine air-slacked lime was then introduced through a hole in the side; the drum was fixed on the end of a light pole twelve feet long, which was passed through the hole aforesaid, and a corresponding hole on the opposite side.

"I sprinkled the trees liberally with this, two or three times a week, much to the disgust of the cureulio, which was literally drummed out of the garden. If fine wire-cloth was substituted for parchment on the heads of the drum, the 'mer-sheen' would be nearly perfect. No patent on this; it is a free gift to the country. I have saved plums by syringing with whale oil soap suds, but consider the lime quite as effectual and less troublesome, with the additional advantage that you can see exactly what portion of the leaves and fruit have been reached by the operation." He then adds:

"By the way, in your September 'green back,' which has just been thankfully received, you say that Mr. Mottier '*does not use brandy and sugar,*' or words to that effect. Perhaps you mean that he does not use them in making wine. Let us have the facts."

Well, we "rather" think you've got us there, and we own up "handsomely." If we were not at the moment very ill, we should ask you to come on and take a "little." As it is, we send you "greeting." We of course meant that Mr. Mottier puts neither sugar nor brandy in his wine; we leave you to *guess* where else he may put it. We know, however, that Mr. Mottier makes a capital brandy, which is very good with a little sugar in it—for medicine. Again he says:

"If you print this, please do not attach my name to it, or Mr. Mottier might send me a box of his 'Catawba,' and it does not agree with me."

You ought to have it, any how, after that, and we hope you'll get it. Mr. Mottier can consign the box to us, however, and we'll keep it for you—as long as it lasts. In conclusion he says, as we think, very appreciatively:

"I take great interest in your articles on grape culture and cold graperies, and look impatiently for your pear experience."

Thank you. We have them all under way now, as you will perceive by the present number.

**CRANSTOUN'S SEEDLINGS.**—Mr. Cranstoun, of Hoboken, has sent us specimens of seedling Phloxes, Verbenas, Petunias, and a Heliotrope. Some of the Phloxes will rank among the very best that we have ever seen. Two of the Verbenas are very beautiful, and of decided merit in form, color, and habit. The Petunias embrace double and single varieties, and some of them are very fine. The Heliotrope is of a dark color, somewhat like *Voltairianum*, with a very large truss of delicious fragrance. It is a free bloomer, and of good habit. We have named the best of the above seedlings, and hope Mr. Cranstoun will send them out; for they are very much too good to be kept from the public.

**AMERICAN POMOLOGICAL SOCIETY.**—At the moment of writing the Pomological Society is in session in Boston, we hope with a good attendance. Being too much indisposed to undertake the journey, we fear we shall not be able to give the proceedings till our next issue. The Society being one of our own children, we feel the disappointment deeply.

**PRIZE ESSAYS OF THE AMERICAN INSTITUTE.**—We have alluded to a list of prizes offered by the American Institute for essays on given subjects. Among these we find a silver medal for the best new varieties of spring Wheat, winter Wheat, Oats, field Corn, and seedling Potato. A silver medal for the best seedling Apple, Pear, and Grape. A gold medal for the best essay on the culture of the Pear. A silver medal for the best essay on the culture of the Peach. A gold medal for the best essay on the culture of the foreign Grape; the same for the native Grape. A silver medal for the best essay on the culture of the Strawberry. A silver medal for the best essay on preserving ripe fruit. A silver medal for the best essays each on cultivating the Potato, Asparagus, and Celery. A silver medal for the best essay on domesticating animals; another for poultry. There are silver medals also for Draining, Forcing Houses, Wine, Corn Sheller, etc. There is also a list of liberal prizes in the mechanical department. The reports are all to be handed in by the 31st of December. The circular of the Institute may be had by addressing James Renwick, LL. D., Corresponding Secretary, New York. The prizes are worthy of the consideration of all parties who feel an interest in these subjects. We trust some good may result from them.

**WILSON AGRICULTURAL SOCIETY.**—The fourth Annual Exhibition of this Society will be held in the village of Wilson, Niagara County, N. Y., on Thursday and Friday, October 9th and 10th. There are some things in the prize list that are noteworthy. There are not only prizes for vineyards, orchards, flower gardens, etc., but also for underdrained fields, the largest number of shade trees planted during the year, and the best worked road. Such things are worthy of more attention from State societies, and we hope will receive it.

**GRAPES.**—Early in September we received a fine bunch of Rebecca grapes from Mr. Schmidt, of Piermont. They were grown under glass, however; those in the open air were not nearly ripe at the time. Some time previous to that we received from Mr. Marié a small bunch of a delicious little black grape, grown in the open air, in a sheltered position. The berries were about the size of the Delaware. These are the only ripe grapes we have seen, except the Creveling and Hartford Prolific. The latter were in the New York market as early as the 14th, and may have been before that.

**DREER'S PANSY SEED.**—We have neglected to acknowledge from Mr. Dreer the receipt of a package of Pansy seed. We grew some last season, and the flowers were so fine as to warrant us in saying that no better seed can be bought.

**HORTICULTURAL PICNIC AT CINCINNATI.**—We have received a very polite invitation to be present at the Horticultural Gathering at Mr. Buchanan's, for which he and his associates will please accept our sincere thanks. Being unable, from illness and other causes, to attend, our friends may at least rely on our spiritual presence, as well as our best wishes for them individually and the cause to which they are devoted.

**HYACINTHS, ETC.**—Messrs. Thorburn will please accept our thanks for a choice collection of bulbs. We have never seen any finer.

**SULPHITE OF LIME.**—This article was for the first time brought to the notice of the Massachusetts Horticultural Society some five or six years since by Prof. Horsford, of Harvard University. This salt has the property of arresting the process of fermentation, and was recommended by the professor for preserving cider, though it may be used in other beverages produced by fermentation. We have tried it, and found it to fulfil the purpose for which it is recommended. Other salts of lime have been sold and used for the purpose, and with ill results. The season of cider making being at hand, we call the reader's attention to the subject, with a caution to be sure and get well-prepared sulphite of lime.

#### BOOKS, CATALOGUES, ETC., RECEIVED.

*P. & E. Transon Brothers, Orleans, France.*—Nursery and Trade List for Autumn of 1862 and Spring of 1863.—We receive annually the Catalogue of Transon Brothers, and find it to contain an extensive assortment in the fruit and ornamental department. The present catalogue is intended for the trade. The agents here are Messrs. Knauth, Nachod, and Kuhne, 28 Broad Street, New York.

*C. W. Grant, Iona, near Peekskill, N. Y.*—Descriptive Catalogue of Vines, and Wholesale List.—This is a new edition of the Catalogue, with valuable additions to the descriptive matter. There is no Vine Catalogue like it.

*Prince & Co.*, Flushing, L. I.—Catalogue of Small Fruits, Select Strawberries, &c., cultivated and for sale at the Linnaean Gardens and Nurseries.—This, we think, is the best catalogue of Strawberries yet issued by Mr. Prince. There are some 250 varieties, including his seedlings.

*Thomas Morgan*, successor to J. W. Faulkner, Stamford, Conn.—Annual Catalogue of Trees, Plants, &c.

## Correspondence.

P. B. MEAD, ESQ.—*My Dear Sir* :—In a garden here, with good aspect and under good cultivation, I have to make the following report on mildew on grapes, viz.:

Isbellas,	- - - - -	No mildew.
Concord,	- - - - -	Badly mildewed.
Allen's Hybrid,	- - - - -	Very slightly mildewed.
Catawba,	- - - - -	Slightly mildewed.
Clara,	- - - - -	No mildew.
Rebecca,	- - - - -	Slightly.
Anna,	- - - - -	None.
Union Village,	- - - - -	do
Logan,	- - - - -	do
Diana,	- - - - -	do
Clinton,	- - - - -	do
Delaware,	- - - - -	do except in certain locations, and then very slightly.

Although both bunch and berry are small, yet the flavor is so fine in the Delaware that I put it ahead of all those in general cultivation.

The Asparagus beetle has made a finish of every thing about here. Beds all destroyed. Yours truly, J. T. T.

[The above is a model report in its way; brief, and to the point. We should be glad to have many more such. Your account of the Asparagus beetle agrees with those received from many different quarters. Nothing, we fear, but absolute and wholesale killing will subdue them. It was not till we called attention to the subject that many discovered that this pest had already begun its work of destruction on their Asparagus beds.—ED.]

GENTLEMEN,—Having built a house for the cultivation of peaches under glass, without artificial heat, I would trouble you for directions how to select and dispose

of the trees. The house is like an ordinary lean-to cold grapery, length 40 feet, length of sash 12 feet, height of front wall 2 feet, of back wall 9 feet. The trees are to be planted and trained under the glass like vines in a grapery.

The question is, What should be the length of the trellis for each tree, supposing its height to be 12 feet, and which form of espalier, the *fan-shaped* or the *square* is to be preferred.

Of the two, three, or four trees to be admitted, I wish one to be a nectarine, and suppose the Stanwick or the Red Roman, and the Monstrous of Douay, the Late Admirable and the Grosse Mignonne, to be the best varieties of the two fruits.

I have also some difficulties to refer to you, in the training and pruning of the Blackberry and the Raspberry. Some weeks since I pinched the tops of the former, and some of them now have side branches 3 or 4 feet in length, and upon these, again, laterals. I wish to know what treatment these different parts should receive at the fall and winter pruning, and how much of this pruning may be anticipated by frequent summer pinching or pruning to prevent the bushes from becoming a tangled mass of briars; what number of canes should be left to each stool, and, if trellises are preferable to stools, what should be the disposition of the canes along the trellis, and the distance between each two of the former. Also, in regard to the Raspberry; often all the strong canes of a stool are divided from near the ground upward into several strong branches; are such canes as good as single ones, and how are they to be managed? Have I done violence to my Raspberry vines in thinning out this summer the canes to 4 or 5, in shortening the other, and cutting the small laterals to two eyes.

The past spring I planted a Honey Locust hedge, setting the plants thus . . . . . , two to every foot in length of hedge. Should they not be thinned out to one plant to every 2 feet of hedge? The plants having already made a growth of from 1 to 2 feet in height, when and how much should they be pruned?

In a former number you advised me to plant Delaware grape vines 4 feet apart. I planted last spring 15 or 20 of them as you directed, and now await directions how to cover the trellises, expecting to cut them back to three eyes this fall, and the next, if necessary. The laterals have been kept pinched to one new leaf as you direct, and the canes are, most of them, from 4 to 6 feet high, and  $\frac{1}{4}$  inch in thickness; the young shoots of those which are now the highest, having been all cut down by the frost of the 25th of May. The leaves, however, are more or less affected as this Isabella which I inclose. Is it mildew?

The inclosed leaf of a cucumber tree is a specimen showing the blight which has covered the foliage of a tree on the lawn, and attracted an army of flies. The branches also are black, and covered with tubercles, which seem to be formed by an insect called by some the coccus. Is there any remedy for this but to destroy the tree, or leave perhaps a young sucker in hope of its making a thrifty growth?

Hoping to receive soon a reply to this rather formidable list of questions,  
I remain, very respectfully, your obedient servant,

A SUBSCRIBER.

Owego, August 26, 1862.

[The list is rather formidable to be answered all at once; but we do so cheerfully, but necessarily briefly. The trellis for your trees should be continuous, reaching the whole length of the house, and some three feet from the glass; not more than four. We like the fan-shaped espalier better than the square. In such a house, however, we should plant the trees three feet apart, and grow them in what the French call the *cordon oblique* form. The Stanwick is the best Nectarine you can plant. The Red Roman is very fine, and so is the Elruge for your purpose. Your peaches are excellent, but be sure you get them true to name, which is not easy. Topping Blackberries is a good practice, but you either topped yours just a little too soon, or probably pinched the ends of the branches. The topping is done to produce strong side branches, but we do not want laterals on these. The side branches must be cut in to about three feet, if very strong; if not, to two feet, or even one, according to their condition. If there are laterals on the side branches, cut them in to two buds. Leave three canes to each stool, unless the stools are very wide apart, in which case four may be left. This will constitute your fall or winter pruning. The old canes will all be removed, of course. The plants should stand from three to four feet apart in the rows; not less than three. The Blackberry needs no summer pruning, except pinching off the top of the leading shoot. A trellis is no doubt the best arrangement for Blackberries. The three shoots should be tied out fan-fashion. If a trellis is not used, tie out the shoots to poles. Raspberries, when growing strongly, will often throw out side shoots; and there is no objection to this, provided they are strong, for the quantity of fruit is thus increased. These side shoots, at the winter pruning, should be cut in to from six to twelve inches, according to their strength. For neatness, we prefer a single stout cane. You did perfectly right in reducing the number of canes; four or five are quite enough to leave; the others should be cut entirely out, not shortened in. This is the only summer pruning the Raspberry needs. The distance at which you should leave your Locust plants will depend upon the height you wish to give the hedge. You may in any event thin them out to the distance proposed. Cut them down next spring to about four inches. We are glad to hear that you planted the Delaware, as we suggested. Cutting back to three eyes will be your pruning for this fall. Our Hints on Grape Culture will keep you thoroughly posted in regard to covering your trellis. Read them carefully from the beginning. The leaf of Isabella you sent is covered with mildew. The other leaf sent looks as if it were entirely covered with soot on the upper side. The texture of the leaf seems to be but very little injured. We do not remember to have seen any thing like it before. We dislike very much indeed to de-

stroy a fine tree. We should wash the tree with a strong solution of soft soap. We know of nothing better. If that failed, we should cut the tree down. We hope these answers to your questions, though brief, will be of some service to you.—ED.]

P. B. MEAD, ESQ., DEAR SIR:—I have inclosed to you, by mail, the flower of a shrub which has greatly interested me, the name and botanical status of which I have been unable with certainty to determine. A friend, while at the Isle of "St. Kitts," in 1860, obtained this with other slips from a gentleman there, who had brought his plant from the Island of Madeira. My plant is about three feet high, and has fourteen flowers like the one sent you, of exquisite fragrance and beauty, which I have never in any plant seen excelled. The diameter of the flower sent you, when cut, was five and a half inches, length ten inches. They close during the day, and late in the evening are in their full glory. The bark of the plant is quite like that of the Ailanthus. I would gladly learn its name, and have taken the liberty of asking your assistance. I will forward you a cutting if you desire it. Very respectfully your obedient servant, R. M. LYON.

Bath, N. Y., September 1st, 1862.

[The flower and the cutting came to our office while we were at home very ill. When we finally saw them they were too much shriveled to be identified. We think, however, your plant is a species of Brugmansia. Can you not send us another?—ED.]

GENTLEMEN:—Is there really any way of *labeling* trees or plants so as to preserve their names for any *reasonable* length of time, say for three or four years, if no longer? I have tried Patent Indelible Pencils to my great disgust. Your valuable suggestions on this point will be grateful to at least one of your subscribers in

BALTIMORE.

[A cheap and durable label is a great desideratum. There are some good patent labels, but their cost prevents their general use; besides this, many of them must be purchased with the name already on them. If these points are no objection, Bliss's labels possess the other requisites to a considerable degree. A zinc label, written on with prepared ink, is both good and durable. It will last for many years if the ink is good. But the cheapest and most durable label of all is thin sheet lead; it will last an indefinite length of time. It is cut into narrow strips, about three inches long, stamped with a steel die, and rolled around a small branch of the tree to be labeled. It is most convenient to use figures and a memorandum book, in which the names are put down opposite the figures. A wooden label well painted, and written upon while the paint is fresh, will last a considerable time; so also a wooden label, if *wetted*, may be written upon with Dunn's pencil, and relied upon for two years at least; but wood in any form can not be regarded as a durable material.—ED.]

DEAR MR. EDITOR:—Walking through one of the finest gardens in Northampton, I came across those beautiful specimens of Fuchsias, and I wondered if you would not admire them too; so I thought I would send you a bouquet from Yankeeland. The lady who owns this pretty place calls the double Fuchsia the "Zouave," and it grows in *platoons like*, of six and eight. I presume you have some more scientific name. These may not compare with your varieties, but if they can't compete with you in the flower line, their trees will outstrip any thing this side of Eden. Such Elms! such Cedars! such Oaks! and such "whispering Pines!" Why they are glorious in their magnificence!

By the way, have you any contributors for your Magazine in these parts? I saw something about a Horticultural gathering over some store, and should judge from that, Northampton was looking from under the trees into the subject. I have a Cedar which I have had growing (or *standing* rather) for over six years, and in all that time it has not increased in length or breadth, but "still lives!" Can you tell me what will start the tree from its lethargic state? Hoping you will drop me *some lines* telling me how you like the flowers and every thing you know will interest me, I remain yours truly,

M. J. E.

Northampton, August 12th.

[The Fuchsias in your note were well pressed and dried. The *Zouave* would not be an inappropriate name for a Fuchsia producing its flowers in "platoons," and we must give your lady friend credit for a vivid imagination. The name of the plant, however, is Sir Colin Campbell, a warrior, though not a Zouave. We have some fine trees here; but as you say yours will "outstrip any thing this side of Eden," and we feel doubtful about claiming so much for ours, we must yield you the palm and avoid comparisons. We have no special contributors at Northampton, but would like to make you one, since you seem so alive to the beauties of Nature. You should have gone to that horticultural gathering, and made all the people subscribe to the HORTICULTURIST; it is indispensable to all gatherings of the kind. They could not have refused a lady. Your Cedar, we suppose, is the common red Cedar, noted for its slow growth; it does pretty well when it "holds its own." We can not well advise you what to do without knowing the conditions under which it is growing. Suppose you mark a circle around it six feet in diameter, loosen up the soil, and keep it free from weeds for a couple of years. We should be very glad to write something to interest you. We hope you may find something in the present number that will.—ED.]

FRIEND MEAD,—Having had my attention turned into a horticultural channel for the past few years, particularly to that part of it called grape culture, I have been not a little interested in the perusal of those articles entitled "Hints on Grape Culture," as given forth in the HORTICULTURIST. It is, I find, a demonstrated fact, that time works important changes in every department of science,

whether mechanical, agricultural, or horticultural. And I doubt not but there are now many Fox Meadows in the horticultural world, that are diving deep, and examining well the superstructure and foundation upon which all their "future hopes" and success in grape culture are to rest. For myself, I can say that I am only very young, and need all the collateral information that is stored up in the garner of experience. Dear Friend Editor, provoke Fox Meadow to continue his "Views," and also give some of his brethren a "sly poke," reminding them of their duty, to set their lights on a hill, and not keep them under a bushel. However, I must say, notwithstanding my inexperience, that I have a grape border in which I planted twenty grape vines about seventeen months since, from which I have gathered a sufficiency of grapes to create an "earnest" for the realization of my most confident expectations. The varieties that produced fruit in this border this season, are Concord, Hartford Prolific, and Diana. Several of my Concords have made an aggregate of over 30 feet of wood this season, being grown mostly with two canes. Hartford Prolifics have grown equally well. One Diana vine has reached the height of 20 feet with one cane; between 12 and 15 feet with another; canes stout and vigorous. No fruit of the Delaware this season; one vine has made 30 feet of wood in two canes; they are both very stout, short jointed, and wiry. My border was prepared not at all after the specifications and details of Friend Olapod, but how I leave for the present, hoping to resume the subject at some future time.

#### FEBRIS VITIS.

*Shrub Mount, 9th month, 11th, 1862.*

P.S.—Please answer in the *HORTICULTURIST* the following queries, and oblige thine truly. Viz.: 1st. Will there be any advantage in layering the vines above spoken of, say about 2 feet, putting 1 foot each year for two years? The border was constructed with a view of layering them. I do not know but Fox Meadow is going to turn my cart over. 2d. What are the characteristics of the Creveling, Bloom, or Catawissa grape, that recommend it? We are glad to hear that those "Hints" are to be continued.

[We are glad to hear from you. You seem to have made a very good beginning in grape culture, and your "earnest" will no doubt be crowned with abundant success. We should not advise you to prepare a border as suggested by Olapod. Fox Meadow's articles are worthy of attention. They will be continued till the border is made. How much farther we can not say at present, but we hope and believe he will make his "Interior Views" full and complete. We should not layer the vines unless there was some real necessity for it. If you do, however, put down a foot at a time, and begin before the vines are another year old. The Creveling is recommended for its hardiness, earliness, and good bearing qualities. It is, moreover, a good grape. We should be sorry to drop the "Hints" now, except to our readers. We shall continue them to the end, with the hope that some may fall on good ground, and produce much fruit. Let us hear from you again about grapes and other matters.—ED.]

PETER B. MEAD, Esq.—*Dear Sir*,—I wish to inquire if you know of a remedy for an evil, which, if it continues to increase as it has done for some years, will soon put an end to the culture of the grape in this place.

Last year I noticed a small fly (which has for several years destroyed the foliage on several kinds of ornamental shrubs in my garden) was attacking the leaves of my grape vines. It did but little injury, except to a “Clinton,” which it stripped of its foliage, and in consequence the fruit did not ripen.

This year the same pest has appeared in myriads on the leaves of all my grape vines, and has destroyed the most of them to such an extent, that the fruit has ceased to grow, and the crop of course will be lost. I have examined the grape vines of some of my neighbors, and find that they are all suffering, in different degrees, from the same cause. The only kind of grape which is not seriously injured, with me, is the Concord. Although it is attacked in common with the others, its very thick tough leaf does not suffer much, and the crop has ripened well. Of the others, the Rebecca and Delaware are the most affected, the Catawba is next, and the Diana the least of all, but the Concord. The fly which is doing all this mischief is, I suppose, a species of “thrip.” There are two kinds on the leaves, one of which, a small fly, less than a quarter of an inch in length, striped crosswise, with three dark and two white stripes, is no doubt the “thrip” of the graperies. This kind, however, is not very numerous. The other sort is smaller, of a greenish white, and is very quick in its movements, flying so briskly, that we have to “look sharp” to see it, although when the vines are shaken they arise in great numbers. I have occasionally had both kinds in my cold grapery, but we easily rid it of them by tobacco fumigations.

Many persons here have gone into the cultivation of the grape, and it is a great disappointment to us to be thwarted by so insignificant a cause, in a pursuit from which we have derived much satisfaction.

If you can prescribe a remedy for us, we will be much obliged. We hope, from your experience in grape culture, and knowledge of the subject in general, that you will be able at once to put us in the way of ridding ourselves of this pest. I fear, however, that it will be difficult to get rid of them. I have already exhausted all the usual means in unsuccessful attempts to drive the same fly off my celery plants, which they have annually destroyed, until I have abandoned the culture of the plant. I have never seen any account of them having attacked the foliage of the grape out of doors in any other place, and fear that there is no established mode of getting rid of them. I would suggest, that if you do not know of a sure remedy, you lay the subject before your contributors, through the medium of the **HORTICULTURIST**.

I will mention, in conclusion, that we have not had a very good grape season. The Catawbas have rotted very badly. The Isabellas also, but not so much. But the Concords and Delawares have not rotted at all, and the Dianas and Re-

beccas but little. I consider the Concord by all odds the best grape for general cultivation for this region.

AN OLD SUBSCRIBER.

*Springfield, Ill., Sept. 10th, 1862.*

[The flies or thrips alluded to by our correspondent are common all over the country. They greatly disfigure the leaves, and injure them sometimes to a degree that threatens the crop of fruit. There are various remedies proposed, but none that we know of that can be relied upon as effectual. Dusting air slackened lime over the foliage we have found to be the best; but it must be repeated several times. The insect is more or less common every year in this vicinity, but not very often in such numbers as to do material damage to the crop. We have sometimes known a vineyard to be so full of them, that on touching a vine they would fly about and in one's face so as to be very annoying, and even get in one's nostrils and throat. The best thing we can recommend is the air-slacked lime, which may be used in a common dredging box, or a child's drum, elsewhere described by one of our correspondents. Do any of our readers know of any thing more effectual? The Catawba has rotted very generally this season; other kinds not so much.—ED.]

MR. EDITOR:—My grapes were attacked with mildew about the 10th of June; and having seen it published that one pound of sulphur in thirty gallons of water, by syringing the vines with this solution, would stop it, and having no experience on the subject, I made the solution, and used it. In a few days, on examining my vines, I found that wherever the water touched a leaf, it killed it dead. The leaves from the lower part of the vines were all killed and fell off, but every grape that was not affected is now growing, and is as large as the same kind on vines that remained healthy. The vines have again put forth their leaves, and the mildew has not yet appeared again on them. Was the solution too strong, or was the mode of applying it wrong? Yours, etc., D. F. KINNEY.

P. S.—The kind of grape referred to above is Norton's Seedling. Would any other kind be liable to mildew by being grafted on them?

*Rock Island, Ill., August, 1862.*

[Your case is more or less common among those who use such remedies for the first time. Your solution was evidently too strong, to judge from the effects, though the proportions would hardly indicate that. You would probably do better to use the flour of sulphur sparingly, simply dusting it on the foliage. Sulphur will not dissolve in water alone. Rub the sulphur up with common yellow bar soap, and dissolve this mixture in water, and you will have a much better remedy. A little lime may be added with advantage. You can graft safely as proposed; that is to say, without *additional* liability to mildew, unless the disease has become constitutional in your vines, which we think is not the case.—ED.]

MESSRS. EDITORS:—We seldom have all kinds of fruit so well represented as the present season. It will be an important year to compare varieties, and report thereon. We have yet found no newer Strawberries which we think will supersede the Triomphe de Gand, Jenny Lind, Scott's Seedling, etc., with us.

The peach-blight has made blighting work on our natural fruit trees this spring. The budded peaches are little injured. Our varieties are Yellow Alberg, Early Crawford, Late Crawford, Honest John, Haines's Early, Red Cheek, Hoffman's Favorite, White Rareripe, Early York, Oldmixon Free, Sturtevant, etc. Are the yellows, blight, and curl-leaf the same thing? Is the cause yet known?

On some vines and in some situations the wet weather has started the rot and mildew on our Isabella and Catawba grapes. What is the cause of the grape rot, and the remedy?

*E. Fairfield, O.*

T. AND S. B. McMILLAN.

[The present has certainly been a very productive fruit season. Apples and Pears are selling at present for a mere song in the New York market, and it is many years since we have seen Plums so abundant. Triomphe de Gand, we believe, sustains its good character all over the country. The yellows and blight are identical, but not the curl. The cause is not well ascertained; but if you begin with healthy trees, enrich your soil properly, and prune systematically and judiciously, you will seldom be troubled with the disease. As it is transmitted by the bud, it is difficult to know whether you have started right or not. All diseased trees should be at once removed. The rot is probably caused by sudden and extreme changes in the weather, accompanied often by cold rains. We know of no certain remedy after it has appeared, but we always remove the infected berries to check it from spreading. Sulphur and other remedies are often successfully used for mildew. A sheltered situation, well-drained soil, and judicious culture are the best preventives. Some kinds of grapes, owing to constitutional causes, are more liable to rot than others. It would require a dozen pages to treat the subject intelligibly.—Ed.]

P. B. MEAD:—Please change the direction of the HORTICULTURIST to Hamilton P. O., Loudon Co., Va., instead of Leesburg. We have a regular mail there now, which will be our permanent office. Let us hear from different parts of the country as to the fruit crop and weather occasionally, or often. I like to know how things do every where. Here we had it plenty wet enough until the 20th of July, but now we have no rain since, and the crops, which were all moderately good, or better than they had been for some years, of peaches and apples, are suffering for want of rain; but should the drought not be too lengthy, the winter apples will most likely be fairer than usual, as the spring was much later than usual, and the fall seems to be approaching already, as the past week we came near having a light frost. Peaches will not be as large as usual, being

hurried by a short summer, and drought in the hottest part. Grapes have rotted considerably; the ground was so wet in the spring they set heavy, and since so hot and dry they have rotted more than usual here; and sorry am I to say, most of the Rogers's Seedlings have rotted some, though they had an unfavorable place at the foot of a northern slope, and trained to their disadvantage; but the Concord has rotted quite as bad; also Catawba, and a variety here called the Constantia, a purple grape, better than the Isabella, and much like it. The Diana, Clinton, and Delaware are clear of rot; also the Franklin. With proper drainage, I don't think the Rogers's Seedlings will be more subject to rot than the Concord, Catawba, or Garrigues.

The Ott pear is in perfection now, and is the best eating pear I have known, unless it be the Seckel, which is not ripe here now. I think the Ott will be found to ripen before instead of after the Seckel, when the trees get older; and this will show why they deem it so poor at the West, as their trees are young and thrifty, and do not ripen perfect fruit yet. The Kirtland, now ripe, is not equal to the Ott, nor is the Lodge. I fear but few from the South can attend the Fruit Congress this fall. I have many other things I wish to say, but must stop.

8th Month, 21st, 1862. As ever, in haste, thy friend, OLIVER TAYLOR.

[We hope that no reverses of our army will render another change in your post-office necessary.—Like you, we are always glad to hear of the weather and fruit from all sections, and we presume our readers share this feeling in common. We too have had a drought of much severity, and on the 2d of September a sharp frost, followed by much heat, and within a couple of days many vines that had up to that time escaped were badly affected with mildew and rot, particularly in low and exposed places. We have noticed a little mildew on two of Rogers's Seedlings; and here we would again repeat our opinion, that no grape vine, under certain conditions, can claim immunity from it. Certain kinds will be more affected than others from constitutional causes, and it is well to know this. Fruit is very abundant here, but, on the whole, not as fair as usual, especially apples. We are glad to hear your good opinion of the Ott; it is undoubtedly a pear of much excellence. We have seen the Kirtland in great perfection, and think it will be esteemed. Take another opportunity of saying what you have left unsaid now. We are always glad to hear from you.—Ed.]

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BROOKLYN HORTICULTURAL SOCIETY.—We continue the proceedings of the Conversational Meetings. The following is the remainder of Dr. Trimble's report on Insects injurious to City Trees.

*The Trees.*—Of the shade trees, the Lime or Basswood suffers most, but the Elm, Weeping Willow, some varieties of the Maple, the Horse Chestnut, and some other kinds, are also more or less involved. And although the span worm

will feed upon the leaves of almost every tree, it seems in most cases to be from necessity and not from choice. The eggs of the span worm are seldom found upon the Ailantus, the Catalpa, Paper Mulberry, the fruit trees, and never on the Black Walnut, nor that fine shade tree, the American Tulip, (the *Liriodendron tulipifera*.)

It is often the case, that in planting trees we set out more than are wanted as they increase in size. When they are all permitted to stand they crowd each other out of shape. Often one tree, with a free chance to spread out, naturally will give you more shade, and certainly be more ornamental, than half a dozen that interfere with each other. The thinning out is often neglected too long, from the very natural reluctance to cut down a tree. I do not know that this is the case in your city ; but if you have rows of Limes or Elms, where the trees will crowd each other as they become larger, and if you do determine to subdue the worms, now would be a good time to thin out. By cutting them away and burning them while the eggs are upon them, you will diminish the labor immensely. But I do not wish to be understood as recommending that the trees should be cut down to get clear of the worms. I would not dispute the title to such barbarism with your aldermen.

*The Parks.*—In my investigations of this subject, I have visited most of the Parks of New York, and many of the streets of this city. The Central Park is, like your Greenwood, clear of the span worms. There the birds are protected, with no hawks to kill them, nor crows or squirrels to rob their nests, and they are found in such numbers as to keep all such insects in check.

Of the other Parks, the Washington Parade Ground has the fewest ; the keeper here told me that they were nearly gone, and the foliage of the trees showed but little injury. Two years ago this square was as much infested as any other part of New York. The trees on the Battery and in the Park, as well as those in front of the Hospital and about Trinity Church, have all suffered, but all are still shade trees, and not as they have been some years, almost as bare as in winter.

Union Square has suffered most, though some of the trees in Madison Square bear the signs of having fed their full share of the worms. The rows of small sized trees in the streets seem to suffer more than the same kinds in the Parks ; there the birds are seldom seen, and probably the parasite flies prefer more protection.

The keeper of the Park on Union Square informed me, that two years ago a flock of four or five hundred Cedar Birds (the Wax Wing) were feeding on the worms for several days in that Park, and he supposes that if they had not been frightened away, they would have taken them all ; and when told that the worms in that Square were thicker than in any other in New York, he seemed much surprised. The Cedar Bird feeds chiefly on berries, and these were probably on a marauding expedition to some of the city gardens in pursuit of early cherries,

and merely came among the worms between meals, by way of variety. It is a habit of this bird to be very circumspect when stealing cherries, and to stay about the trees no longer than is necessary. All the testimony I could get from policemen and others both in New York and Brooklyn, seemed to concur with my own observations, that the worms were not more than half as numerous this year as last, and that two years ago—1860—they were the most numerous.

As nothing has been done to destroy them, it becomes an interesting inquiry, as to the cause of this diminution.

The rate of increase in insect life is generally enormous, and this one is not an exception to the rule. The number of eggs in the clusters left by the millers of the span worm, varies from eighty to two hundred and thirty. In examinations of the eggs deposited last year, every one has a little opening in the end, where the young worm seems to have safely escaped. You have but few of the little creeper birds in your Parks, and found chiefly in winter, that with their sharp beaks peek into and feed upon the eggs of insects. You have never yet had the worms in such numbers as to destroy the foliage of your trees before they arrived at maturity, and thus, from starvation, come to an untimely end, as insects sometimes do.

In theorizing on this matter, I supposed this decrease of numbers was brought about by that class of insects that has in charge the *regulating* of the insect world ; and since your invitation, I have taken some pains to ascertain whether the facts will sustain that theory, and have found enough to prove that they do.

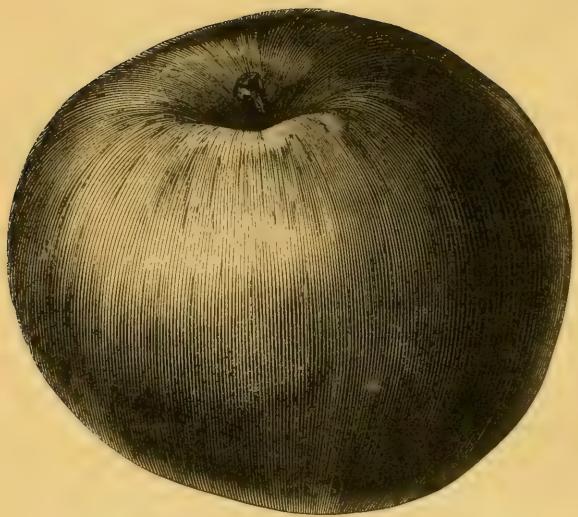
As a matter of science these investigations have been to me profoundly interesting. To you, who are so anxious to get rid of this worm pest, it will be welcome news to know that they are likely to aid you greatly in your labors.

As but little is generally known of this Ichneumon or Parasite class of insects, to which we are so much indebted for its controlling power over other classes, it will be well to give a brief explanation before going further.

There is nothing in the other departments of nature exactly corresponding to this class of insects. In the vegetable world, the Mistletoe is a fair illustration of the parasite, but it does not kill the tree upon which it feeds.







THE EVENING PARTY APPLE.

*Engraved for the Horticulturist.*

THE

# HORTICULTURIST.

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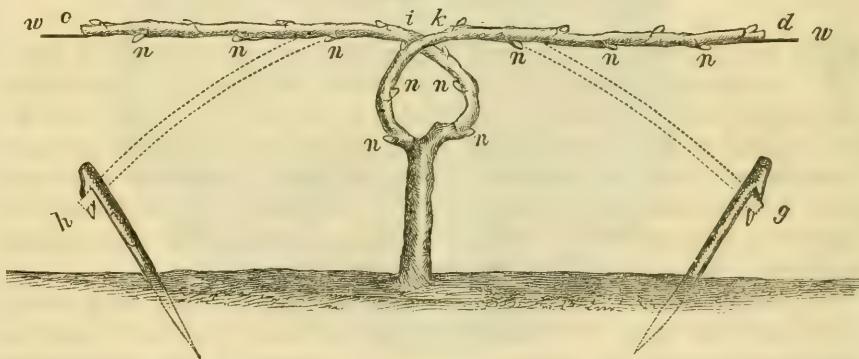
## *Hints on Grape Culture.—XX.*

WE now propose to finish our last article, relating to the formation of arms. Our present description, it must be borne in mind, has special reference to the vineyard, though it will do for the garden just as well; but for the latter we have another mode of forming arms, which, though somewhat tedious, is more symmetrical in form, and sufficiently interesting to fix the attention of the amateur. It would always be the neatest mode for the garden, if we could only circumscribe a little the desire to plant a vine to-day and gather a full crop of grapes to-morrow. The process will be described in its place.

We have directed the arms to be cut in to at least two feet, and much shorter if the cane is not stout. We have also directed the arms to be bent to a curve, and temporarily secured in this position. Let us now refer to the accompanying illustration, a "portrait" of one of our own subjects, three years old, drawn to a scale of one inch to the foot. We have selected a short-jointed variety by way of illustration; all the lower eyes being rubbed out, those above will be about six inches apart. This will be nearly an average for the short-jointed kinds, though some will be seven and others eight inches, and even the same variety will vary a little in the length of the joints. The buds are sometimes closer the first year than the second. Precise exactness, therefore, need not be looked for in this particular. The buds, however, should in no case be left closer than six inches; neither should they be wider apart than twelve inches. It may be adopted as a general rule, as heretofore stated, to rub out every other eye in the short-jointed kinds, and leave all the eyes in the long-jointed kinds.

Let us now recur to the engraving, where the buds are six inches apart. *c* and *d* are the arms. *h* and *g* (dotted lines) show the manner of bending them to induce the buds near the trunk to break strong. We have stated that the practice

is to bend the arms in the direction in which they grow, but that we have found it better to bend them in reverse order, as shown in the engraving, where it will be seen that the arm on the left is bent to the *right*, and that on the right is bent to the *left*. We find, in practice, that when the arms are thus bent the eyes near the trunk break stronger and more uniformly; and herein theory and practice agree precisely. To bend the arms, the trunk must first be securely tied to a short stake or to the lower wire. The arm must then be bent gradually and carefully; if it is stout, it must be bent carefully all along with the thumbs and fingers, just as we bend a stout wire into a curve. It will probably "snap and crack" a little, but this will do no harm, though it may frighten the novice. In bending the arms, first tie them to the wire at the points *i* and *k*; then take hold of the ends, bend them down, and secure them with pegs, in the manner shown by the dotted lines *h* and *g*, where they are to remain till the new shoots have grown about



three inches, when they are to be tied to the bottom wire. In doing all this, the buds must be kept on the upper side of the arm, as before described; and this is easily done with ordinary care, though the novice may at first find it a little awkward, which is only a polite way of saying that he may at first be a little awkward himself. We hope, however, that we have made the matter very plain. A little care must likewise be exercised in getting the arms in good position at the point where they cross each other; if any difficulty is experienced, tie them at several points near the trunk. A little practice, however, will overcome the difficulty.

The arms are bent in the ordinary way with somewhat less trouble. In this case, the arm *d* is bent in the direction *c*, and the arm *c* is bent in the direction *d*; or, in other words, they are bent in the direction in which they grow. In other

respects, the treatment is precisely the same as that described above. All the buds marked *n* must be rubbed off; the rest must be retained. The last bud on the arm must be on the upper side. The arms in the illustration are one foot and nine inches long. The wire, *w*, is fifteen inches from the ground. The engraving being drawn to a scale, the reader, by using a rule, can ascertain the proportions of all the parts. We advise him to study it attentively.

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### LANDSCAPE ADORNMENT, NO. XXVII.—CONTRACTING.

BY GEO. E. WOODWARD, CIVIL ENGINEER & ARCHITECT, NO. 37 PARK ROW, NEW YORK.

THE execution of ornamental landscape work by contract is a subject that admits many arguments on both sides. It presents many advantages to the proprietor engaged in other business, relieves him from anxiety, and informs him of the precise cost. If he deals with reliable men, the result of such operations is satisfactory; but if he bargains for work below a fair price with those who consider present profit only essential, he will soon find out that he has paid a round price for shabby work. That work can be done honestly, fairly, and economically by contract, there can be no manner of doubt; but one must first rid himself of the idea that he can get good work done below the current rates, or that the lowest bid is the cheapest. A contractor, like any other business man, pursues his business for the purpose of making money out of it, and it must be evident, on the least reflection, that if he takes work below its value, he must intend in some manner to deceive. A few exceptional cases might occur, where it would be deemed better to execute works honestly at low rates, than to keep idle horses or disband well-organized laboring forces; but such opportunities can not be relied on.

It is a mistake to suppose that the business of a contractor is one that can be taken up at once without previous training; it is a pursuit to which one should be educated, and one which requires a man of intelligence. The great evil of contract work lies in the want of discrimination among those who have work to be done, and the contractor is not judged by his character or his ability, but the question is, has he the means and forces to carry out his proposals, and does he propose to do the work at the lowest price? Such is the usual practice, and such practice is certain to bring contract work into disrepute. Those who wish first class, substantial work, reject the contract system, and it is considered among dealers as a strong recommendation to a house to say that it was built by day's work. There is no plausible reason that could be advanced why a house, a road, or work of any kind that can be planned and specified, should not be as well executed by contract as by day's work. There is a percentage of gain in systematizing work and superintending day laborers, that a salaried foreman not interested

pecuniarily in results, invariably overlooks, and that per centage amounts to a handsome profit, desirable to an intelligent man, who could fairly execute the same class of work for the same sum.

It is customary to hear persons of limited experience scout the idea of doing Landscape work by contract, simply because it is a work of art. They do not comprehend that a contractor (unless he be also an artist) has nothing to do with design. No one denies that architecture is a fine art; yet all know that it is an every-day matter to put up buildings by contract that embrace fine artistic effects; but no one thinks of holding a contractor responsible for those effects. He fulfills his obligation by reproducing in real materials the design which is furnished him on paper; and so long as he follows instructions, he must be successful. What is true in architecture is equally true in all branches of construction; any thing that can be planned and specified is a subject of contract.

It must be evident to a careful observer, that as we go up the scale from rough work to that which is polished and beautiful, we must in the same ratio look for increased intelligence and talent in the person who executes. A contractor should be selected who has both ability and experience in that department of work which he proposes to undertake, and who can readily comprehend both the plan and specifications that relate to it; then if he be a man of integrity, and receives a fair price for his services, the results will be satisfactory.

There is a growing desire among most business men who are carrying out extensive improvements, to have an accurate knowledge of the cost before any thing is done; but there is likewise a popular impression that in landscape work it can not be definitely ascertained. This is owing in a great measure to the fact, that but few who contemplate improvements either know what they want, or what effects their grounds are most capable of producing. The moment they find out either by professional aid or otherwise, precisely what is required, the further solution of the problem is a simple matter. It is just as easy to give the sum required to grade and beautify one's grounds, as it is to build a house; but there are in most cases so many more facts required, so much more labor necessary, and so little competition, that estimates of the value of landscape work must be made for a consideration, and not, as is usual in building operations, for a possible chance of being the successful competitor.

Then, again, but few novices in the higher grades of country life have just ideas as to the values of work; and when they get a fair bid for honest work, treat it as an extortion; and the fact that they can get bids for the same work at half those prices confirms the opinion first formed. Planting trees by contract seems, at first thought, somewhat absurd; but experience shows us that it can be well done, if done by those who take pride in their reputation; who do their work in such a manner that they can refer to it, and who pursue their business with the intention that it shall honor them; yet every one knows that a tree can be set out at almost any price, and there are but few that can be convinced that among

all things that are best, when well done, the planting of a tree should be included. It is not the nurseryman's fault, but the mistaken notions of economy every where prevailing. If, in planting operations, men would do well what they do, and leave undone that which they would do cheap, it would be an actual saving of money and annoyance.

To do work successfully by contract would require the employment of men of ability in that department of work required; they should be men of integrity, and a fair price should be paid. Such men can always be found by making the proper inquiries.

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#### STRAWBERRIES—PLANTING.

In our last two numbers we gave some extracts on Strawberry Culture from Dr. Grant's *Landmarks*. We now make an extract from Mr. Fuller's *Strawberry Culturist*, giving his views in regard to the time and mode of planting.

"Choose cloudy weather for planting, if possible. Draw a line where you are to put the row of plants, keeping it a few inches above the ground, so that you may plant under the line; that is much better than to let the line lie on the ground, for then it will be in the way of the transplanting trowel; spread out the roots evenly on every side; cover them as deeply as you can without covering the crown of the plants; press the soil down firmly around them with the hands.

"If the weather should prove dry, give them a good soaking with pure water (no mere sprinkling will do) as often as they require it, which will be as often as the foliage droops. The rows should be two and a half feet apart, the plants one foot apart in the rows. When pistillate varieties are used for the main crop, then every fifth row must be planted with a hermaphrodite variety, for the purpose of fertilizing the pistillates. Pistillate varieties will not bear alone, nor will they bear a full crop of perfect berries unless abundant supplies of perfect flowering varieties are placed in close proximity. Let no weeds grow among them, and stir the soil as often as possible; the oftener the better. We know that some cultivators assert that there is much injury done to the roots by frequent hoeing; but we have never found the plants as much injured by hoeing or forking among them as they were by neglecting to do either.

"Take off all runners as they appear, so that all the strength of the plant shall be concentrated, and not distributed among several, as a dozen small plants will not produce as much or so fine fruit as one good strong one. When plants are wanted, make a separate plantation for that purpose.

"At the approach of winter, the entire surface of the soil, plants and all, should be covered with straw, hay, or some similar material, to the depth of one inch; the object being not so much for the purpose of keeping out the frost as to prevent

the frequent freezing and thawing during the early part of winter and the approach of spring. So soon as the plants start in the spring, the covering should be pushed aside, so as to allow the plant to grow up through it. The question is often asked, whether it is necessary to cover the hardy varieties in this locality during the winter? and if we should judge from the difference in the appearance of the plants in the spring, we might doubt the expediency of such a practice; but I have found it highly beneficial to cover all varieties, having tried several experiments, the results of which were, that on an average we obtained about one quarter more fruit when the plants were covered than when they were not.

"The embryo fruit buds are formed in the fall, and are often injured during the winter and spring, and of course if there are but a few fruit stems put forth, there is but little call on the plant to support them, and consequently the leaves have more food.

"Usually the plants, grow strong or weak in proportion to the quantity of fruit they bear. This would often lead cultivators to suppose, from the luxuriant growth of the plants, that covering was of no benefit, if not positively injurious.

"Keep off all runners at all times, and pull up all weeds that come through the mulching. No stirring of the soil is needed if a good depth of mulch is sustained. It will generally be necessary to add a small quantity of mulch every fall, depending, of course, upon the nature of the material used. Salt hay is a material that is much used near New York, and it is cheap, lasting, and is easily applied; but straw, hay, carpenters' shavings, leaves, tan-bark, etc., are all good. Strawberry plantations that are kept well mulched, and freed from weeds and runners, will last for many years, depending, of course, somewhat, upon the variety planted and the nature of the soil.

"On very dry or sandy soil it is well to mulch the ground very soon after the plants are set out, or so soon as they take root in the soil, as there is but little danger of being troubled with weeds the first season, and the mulch keeps the earth moist, a thing which it is very difficult to accomplish in any other way.

"*Garden Culture.*—The same direction given for field culture of the strawberry is applicable to the small garden, with the exception of the arrangement of the beds; these should be four feet wide, planting three rows in each, placing the plants eighteen inches apart each way; this will leave six inches margin between the outside row and the walk, which should be two feet; this gives three feet between the plants, of parallel beds. This is none too much space between the beds for standing room to gather the fruit; and if different varieties are grown in beds side by side, a less space than three feet would increase the danger of the plants running from one bed to the other. Although no runners should be allowed to grow, all of us will sometimes become careless and neglect to keep them off; and mixing the plants should be guarded against, if any thing like good culture is attempted.

"When pistillate varieties are grown, they should be planted in alternate beds

with other sorts, but never plant both kinds together in the same bed. Mulching the beds should be attended to the same as in field culture; and when it is convenient, it is well to remove the mulch after the plants have done fruiting, and fork up or hoe deeply the ground between the plants, and then mulch again.

"All the different operations by which the fruit may be enlarged or the quantity increased, such as watering with pure water, or with liquid manure, guano, salt soda, etc., will suggest themselves to the observing cultivator.

"When a strawberry bed begins to fail, it is best to plant new beds on new soils, and when the old beds are destroyed, the ground on which they were should be planted with some other crop, and not again planted with strawberries for two or three years.

"*To produce Large Fruit.*—To grow a few large berries, it is only necessary to select, so soon as you can after the fruit sets, three or four of the most promising berries, and pick off all the rest, and then not let the plant want for moisture or food until it is ripe. To grow large fruit of the Alpine strawberry, it is best to raise new plants from seed every season, letting them fruit but one season, and then replace them with new plants. This class of strawberry reproduces itself from seed without any considerable variation."

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#### REVIEW OF THE SEASON IN EGYPT.

BY A. BABCOCK, UNION CO., ILL.

THE strawberry, peach, pear, apple, and quince have done well in South Illinois the present season. The strawberry suffered somewhat from drought in some localities, yet still, on well-prepared ground, yielded good crops.

Strawberry growing is in its infancy here. The largest crops, as regards quantity and size, were grown on soil deeply stirred and pulverized, and thrown into small ridges with a one-horse plow. The plants were set on the apex of the ridges, and the surface between them heavily mulched. All weeds were destroyed and runners kept off. The ridges should be about three feet apart, and raised some six inches above the general surface of the ground. A mulching sufficiently thick to keep down all weeds can then be applied without danger of smothering any plants. I would call the attention of strawberry growers to this mode. It has proved very satisfactory with me.

The peach crop was a bountiful one in every situation, on low as well as high ground; but that busy "little turk" was indeed busy "making his mark" upon the young fruit; the value was thereby lessened in quality and quantity about one fourth or more.

Pear trees, both standard and dwarf, have made a splendid growth of wood; about one fourth more than the same sorts in New York with the same culture.

The older well-known sorts, such as Bartlett, Seckel, White Doyenné, Angouême, Louise Bonne, on quince roots, bid fair to do extremely well here, the size and appearance of the fruit being all that one could desire. Of their ultimate success on their own roots it is too soon to speak, although we have every reason to believe they will succeed well. No blight as yet.

Young apple trees make a rampant growth of wood, and require summer pruning to check them, and cause the formation of fruit buds; otherwise some sorts become large trees before showing fruit. The growing of early apples for the northern market bids fair to pay well.

Quinces make a good healthy growth; come early into fruiting; bear fair crops regularly of large-sized fine fruit; and last, though not least, sell well in Chicago, as they were quoted in Chicago papers in fall of 1860 and '61 at \$7 per barrel. The most prolific bearer yet fruited here is "Van Slyke's Seedling," from New Jersey, I believe.

We have had a fair supply of rain in Egypt the past summer, pretty well distributed through the season. The crops of corn, cotton, sweet potatoes, tobacco sorghum, &c., are considerably above an average of the last four years.

[A "review" modestly but admirably done. We could wish to see many more just like it. We have written to several friends for articles just like this. We can not write to all, and therefore take occasion to say here, that we shall be very glad indeed to have reports like the above from all sections of the country. They furnish important material for the pomological history of the time, which should be put upon record for future use; besides, when properly prepared, they enable us to judge pretty accurately what varieties of fruits succeed generally as well as sectionally; and they are useful in many other respects. Let each one, therefore, who is in a position to gather facts, do his might towards "making history." Mr. Babcock's method of growing strawberries presents much novelty. It manifestly saves labor, and should be tried by those who grow this fruit in large quantities. The name of your quince is Rea's Seedling. It originated at Coxsackie, N. Y., and is a superb fruit. Let us hear from you again soon.—Ed.]

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### THE CHERRY, WITH A DESCRIPTIVE LIST.

BY E. MANNING, HARRISBURG, OHIO.

As the present season has given a good cherry crop in most parts of the country, and as most persons are under a mistake concerning this superb fruit, I propose to give my experience in its cultivation at this place.

I cultivate the cherry both on the Mazzard and Mahaleb stock, in about equal numbers, with pretty good success. But, as a general rule, my losses have been five times greater on the Mahaleb stock than on the Mazzard. All the varieties

I have tried on the Mazzard stock do well, except the Black Tartarian, which has so far proven an entire failure on the Mazzard. It appears, however, to do pretty well on the Mahaleb stock. Among sixty-five varieties which I grow on my grounds, this is the only exception.

My soil is common upland clay, with a calcareous subsoil. Position mostly northeast, though some are on a southern aspect. I have been but little troubled with the bark bursting, only in the case of the Black Tartarian. The only malady that has infected my trees appears to be a kind of blight; the bark on certain limbs, and sometimes on the whole tree, turns a dark brown, killing the whole limb or tree outright, as the case may be. The disease is confined almost entirely to those on the Mahaleb stock.

I now propose to give you my experience on the best varieties; and should I differ from my horticultural friends elsewhere to some extent, I have only to say, my descriptions are only for this place.

*American Heart*, 1st size, 2d quality. Very productive.

*Downton*, 1st size, 5th quality; destitute of flavor; rather bitter. Entirely unworthy of cultivation.

*Late Bigarreau*, 1st size, 2d quality.

*Burr's Seedling*, 1st size, 1st quality.

*Manning's Mottled*, 1st size, 2d quality. Very productive.

*Elkhorn*, 1st size, 4th quality; bitter; destitute of flavor. Unworthy of cultivation.

*Napoleon Bigarreau*, 1st size, nearly first quality. Very beautiful and valuable for market.

*Mezel Bigarreau*, 1st size, 1st quality. Tree slow grower.

*Black Eagle*, 1st size, 1st quality. Rather shy bearer.

*Great Bigarreau*, 1st size, 1st quality. Very fine.

*Rockport Bigarreau*, 1st size, 1st quality. Very productive. Ripens next after Purple Guigne. One of the most valuable.

*Red Jacket*, 2d size, 2d quality. Rather late.

*Powhatan*, 1st size, 1st quality.

*Pontiac*, 1st size, 1st quality. Valuable.

*Osceola*, 1st size.

*Delicate*, 2d size, 1st quality. Very beautiful.

*Gov. Wood*, 1st size, 1st quality. Splendid.

*Black Hawk*, 2d size, 1st quality.

*Kirtland's Mary*, 1st size, 1st quality. Very fine. Ripens just after the Rockport Bigarreau.

*Kirtland's Mammoth*, 1st size, 1st quality. Rather shy bearer.

*Ohio Beauty*, 1st size, 1st quality. Very beautiful.

*May Duke*, 1st size, 2d quality. Ripens very irregular; hardly second early. Worthy only of amateurs' grounds.

*Belle d'Orleans*, 2d size, 1st quality. Early.

*Elton*, 1st size, 1st quality. Very splendid. Worthy of all that has ever been said of it.

*Bigarreau or Yellow Spanish*, 1st size, 1st quality. Very fine and rich.

*Reine Hortense*, 1st size, 2d quality. Not as late as generally reported. Very tender.

*Black Tartarian*, 1st size, 2d quality. Very splendid; one of the best.

*Early Purple Guigne*, 1st size, 1st quality. The earliest of all cherries I have tested. Ripened the present season, May 28.

*Knight's Early Black*, 1st size, 1st quality. Second early. Very tender.

*Gamdale*, 2d size, 2d quality.

*Toupie de Herard*, 1st size, nearly first quality. May yet prove so.

*Florence*, 1st size, 1st quality; late. Very beautiful, and valuable.

*Bigarreau Gabalis*, 1st size, 1st quality. Resembles the Black Tartarian, but larger, of the most exquisite flavor. The best of all cherries I have ever tested.

*Coe's Transparent*, 1st size, 1st quality. Very fine.

*Brant*, 1st size, 1st quality. Fine.

*Doctay*, 2d size, 1st quality. Late.

*Belle de Choisy*, 1st size, 1st quality. The best of all Dukes.

*Waterloo*, 1st size, 1st quality. Very fine.

*Black Bigarreau of Savoy*, 1st size, 1st quality. Quite late and valuable.

*Large Heart-Shaped Bigarreau*, 1st size, 1st quality. Splendid.

*Hovey*, 1st size, 1st quality. Fine.

*Cumberland Spice*, 1st size, 1st quality. Nearly the same size and appearance of the Black Tartarian; richer and higher flavored.

*Belle Magnifique*, 1st size, 2d quality. Rather late; one of the best Dukes.

*Early Richmond*. Not early. Desirable only for variety.

Besides, I have the De Planchary, Late Duke, Latest Duke, Royal Duke, Archduke, Ramsey's Late Duke, which are desirable only for variety.

Several of my varieties have not as yet fruited, so as to enable me to speak of their merits.

[Mr. Manning has a large and fine collection of Cherries. Some of the names, however, we regard as synonyms. There seems to be a great unanimity of opinion among growers in regard to the quality and value of such kinds as Gov. Wood, Elton, Black Tartarian, Belle de Choisy, and others. We suppose that some of our readers will not agree with Mr. Manning in his estimate of the value of the Mahaleb as a stock; not because the Mazzard is not most valuable in his locality, but because the Mahaleb, as a general thing, is found to accomplish very well the purpose for which it is used; that is to say, for dwarfing and early fruiting. Mazzard stocks are best for the orchard. There are many of our readers who might do the public good service by giving, like Mr. Manning, the results of their experience in the culture of the Cherry.—ED.]

## FRAUD IN SEEDS.

BY ONE WHO KNOWS BEANS.

MR. EDITOR: "Weeping Sufferer" has struck a *lead*, as we say at the mines, which I hope to see followed up. He is after the fraudulent nurserymen. May he lack no recruits to join in the hue and cry, until they skedaddle across the mountains into the Pacific, and take up their abode among their Chinese brethren. A pretty sure way to get a good fruit tree from a known plant-swindler is to contract for some worthless sort which is so out of date as not to be had. He, determined not to be outdone, puts in something good, in order to satisfy his evil disposition by supplying an article not contracted for. To illustrate:

Several years ago, I had the misfortune to allow a person of this class to become indebted to me. He was apparently a man of large means; but I knew that he never paid his contracts except in nursery-stock. I had resolved to cultivate fine Pears. I knew he had some young dwarfs, just budded with good varieties. I also know, if I contracted for these, I was quite sure to get those not budded at all, or, if so, of worthless sorts. I therefore proposed to take in payment, Summer Bell, Summer Bon Chretien, and Bergamot Suisse, as being of old and tried sorts. My nurseryman was at first a little non plussed; said they were getting very scarce; great demand; large orders; becoming popular; doubts as to newer varieties succeeding; dwarfs an experiment; might not succeed; rather believed they would; knew a party that had a few; held at a high figure; lived a hundred miles up the country; expensive going there; mail but once a week; could get them to oblige a friend.

The result was, I contracted for the number of trees wanted, and had the satisfaction of knowing that they were dug out on his own grounds, from the recently budded varieties, and have this year enjoyed Beurré Giffard, Duchesse de Berry d'Eté, Stevens' Genesee, etc., to the gratification of myself and family, feeling satisfied that if I had contracted for these varieties, I should have been *choked off* from Pear culture entirely, and have been ready now, with many of his customers, to declare Dwarf Pears a failure. Had your correspondent tried my plan, he probably would have got Delaware instead of spurious Dianas, and had less reason to "weep" or "suffer" from the imposition. There is this difference between us: I had my eye teeth cut a quarter of a century ago; his *canines* are just appearing. But, aside from all badinage, why do not the nurserymen unite in their might and put down these few pretenders who throw such discredit on their profession? What if a rascal or two has made money by cheating? they have prostituted talents, which, honestly applied, would have quadrupled their worldly goods, and laid up treasure in heaven at the same time. What their chance for the future is, I will not presume to say. Honesty is the best policy. I know more than one nurseryman who has tried it successfully; not

*he*, however, who declines to make restitution for a fraud, or *he* who refuses to pay his honest debts under the plea that he "can not claim any thing as his own," because it has been previously legally! transferred to his wife or son.

But, Mr. Editor, there is another grievous evil which your patrons are suffering from yearly, that you alone can correct by holding the parties up to scorn and ridicule. The amount involved is so small that each prefers to "bear the ills we have, than fly to others that we know not of;" that is, to put up with a small fraud rather than to go to law for redress. I allude to the frauds in seeds. The nuisance has, however, become so extensive, that "it is time to speak." Every country store, and every dry goods, grocery, and drug store in all our country towns are loaded down with garden and other seeds, which often remain over from year to year, and have no vitality. These are put up by unknown persons, living in obscure places, so that they can not be hunted up or exposed. This might be corrected, if in each country town some one person of character would undertake the seed business, and assume the responsibility to sell none but good seed, purchasing their stock from well-established houses in the larger cities, or from men of character who grow them.

The frauds in seeds affect a class of people who are less able to bear the disappointment, than those who own large tracts of land on which to plant orchards and vineyards; they are the laborers, market gardeners, mechanics, and men of small income, who cultivate patches, and who wish their families to enjoy vegetables, flowers, and small fruits, and to whom it is a serious loss to buy old beans or onion seed, which they find, when too late, will not vegetate; or who, if he can spare fifty cents for a dozen Japan Pink seed, is terribly disgusted to find that what he bought for *Dianthus Chinensis Hedewigii Flora Plena Hybridus Imperialis*, proves to be but a common Pink.

They also affect a class that can not well gird on the sword to combat the common enemy, and who, unfortunately, do not often enough know their own power to wield the pen in self-defence. I mean the ladies; and these, you and I, Mr. Editor, are bound to protect. One who assumes to *oversee* my doings, has in her border purple and white Candytuft; seeing "scarlet" advertised, remits the requisite number of postage stamps, and receives white and purple mixed. She can not be made to comprehend how these colors can be combined to make scarlet, red being an original color. From another she orders "Petunias, mixed," for bedding, which all come up of one color. Again, six Dahlias, described in catalogue as "very beautiful, making a fine assortment for a small border," prove to be all a dingy brown, and so near alike that an expert can see little or no difference, and no one can discover any beauty. But the crowning annoyance was the reception of a dozen nicely folded papers, labelled "German Asters," in which not a single seed could be found. A dollar's worth of patience was expended before it was stated to be "a mistake." If a lady makes "a mistake," she has to pay dearly for it; why should not a seedsman?

I say nothing about the Mummy Corn, Australian Coffee, Japanese Wheat, and Indian Hemp, for these frauds are mostly exposed in the agricultural journals, and he who will not read them deserves to lose ten times the subscription every year. But the seedsman who knowingly sells bad seeds, barters his conscience to the devil for a very small sum, even if the price of his five or ten cent papers is all profit. Can not your self-protecting association include this class of dealers also? Can they not be brought up with a round turn, and made to be honest from fear of exposure if not so? Let seedsmen be notified, that when they put up and vend worthless seeds, they are to be held bound for the loss, and for all the labor and disappointment caused thereby; that for five or ten cents received for trash, they will be expected to pay as many dollars, and they will soon understand what is meant by "a hundredfold."

[We feel deeply mortified in being compelled to acknowledge how much truth there is in complaints like the above. We had indulged the hope at one time that the distribution of worthless seed would be so entirely monopolized by the Patent Office as to leave none in the market for small venders. It was natural to suppose, since the government, at great expense, sent to Europe to buy this class of seed, that the home market had been first exhausted; but this seems not to have been the case, and the government, with all its resources, has been out witted. "Beans" (and he knows) tells us what a thriving business is done in his town, and we know that it is more or less common in a great many others. It was only a few days since that we saw an acre of ground that had been nicely prepared and sown with turnip seed; but there were not two hundred plants on the whole acre. An examination showed that the seed had been worthless. Similar cases are brought to our notice almost daily, till we are at last compelled to admit that the evil is wide-spread indeed. No respectable seedsman, of course, would knowingly sell an impure or worthless article; but the misfortune is, that his name is freely used by country dealers, and he suffers in consequence. It is a common practice with them to buy a little fresh seed in the spring, and mix it with that which has been left over from last year's sales; and in this way some kinds are eked out for several years. Some parties must know that they are thus practicing a grave fraud; others, we believe, are ignorant of the wrong they do; but the evil is none the less, and measures ought to be taken to arrest it. This may be done in several ways, such as sending to our large cities to seeds-men of known respectability, buying of duly authorized agents, exposing and denouncing all cheats, etc. It is hard, however, for a poor man, who only wants a few seeds of a kind, to be compelled to send fifty or a hundred miles for them, at the expense of postage or freight. It is better to do this, however, than to lose the fruits of a year's labor. We should buy no seeds at a country store, unless the proprietor could show undoubted vouchers for their freshness and purity; and we should insist upon full restitution for all errors. In buying

a piece of cloth, we can generally trust to a personal examination; but in buying seeds, we have to rely entirely upon the vender's honesty. We agree with "Beans;" "honesty *is* the best policy." Having said this much on one side, we must add, on the other, that there are persons who do not know—beans, we came near writing ; but we mean, who do not know how to plant seed so as to insure its vegetation even when it is good ; all seeds, with them, are planted alike. We should probably help both parties out of some of their troubles by adding some remarks on seed planting, and will do so at another time. If every man and woman only "knew beans," things would work along much more smoothly.—ED.]

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### A SHORT RAMBLE.

BY W., WASHINGTON HEIGHTS.

ONCE, a long time ago, I heard a very pretty song; I believe it was called "Molly Bawn." I recollect two lines at the end of a verse ran thus:

"And the stars above are brightly shining,  
Because they have nothing else to do."

Now I do not consider myself a star, although I feel assured there are such things as biped stars. I frequently see them mentioned in theatrical notices and criticisms. Well, like the stars first mentioned, "because I'd nothing else to do"—of importance, mind you; for who ever yet heard of a gardener, if he had a garden to attend to, who had nothing to do? However, feeling at liberty, I thought I would indulge myself in taking a stroll to see my neighbors at Riverdale. I have lived within six miles of them for nearly ten years, and never visited them before. I went up on the Hudson River Railroad; and if you, Mr. Editor, ever land at that dépôt, viz., Riverdale station, just stand for a few minutes on the railroad bridge, and if you do not confess that it is the most charming river view you ever saw on the Hudson—at the same elevation above high water mark—between the ocean and West Point, well, then, you and I disagree, or, in other words, landscape beauty has no seat in your affections, which is a pretty hard thing to say, and still harder to believe.

Riverdale is a clear, substantial, and respectable-looking place. The property on which it is located was purchased after the railroad was finished, by one of the Messrs. Babcock; there are two brothers reside here. He resold to other parties, upon certain conditions, and under certain restrictions, viz.: such as would prevent them from putting up shanties, tenement houses, grog shops, etc. The result is, that not any of these nuisances greet the eye, and the absence of them is agreeably realized as soon as you cross the railroad bridge, and find yourself amid substantial stone houses, with ample lawns, flower gardens, orchards, etc. The un-

pretentious air of respectability and rural quietude which the place assumes is really charming. The first house after crossing the bridge belongs to Mr. Stone, and is surrounded by, and liberally planted with, shrubbery, evergreens, hardy flowering plants, etc., and appears to be kept in very good condition. Further up, and more to the south, is the residence of Mr. Colgate. This place is well located; the grounds very judiciously and tastefully planted and laid out by Mr. Baumann, two years ago. The gardener not being around, I did not ask any questions, but passed on up to Mr. Franklin's, a relative of Mr. Babcock's. I found Mr. Franklin in the garden; an unostentatious and sensible gentleman, with a hoe in his hand. What he was going to do with it, this deponent knoweth not. I suppose he took it with him for the laudable purpose of slaughtering weeds, but where he would find them, I do not know, for assuredly I did not see any.

The first thing that attracted my attention was *Rubus laciniatus*, at home. I say *at home*, because I have known it for some time, but have never before seen it planted in the proper place. Along the upper part of the vegetable garden Mr. F. has built a stone wall about eight feet high, and I think about 200 feet long. Posts are placed close to the wall, and wires are stretched along them; and about half the length of this wall is completely covered with this *cut-leaved blackberry*, and full of fruit from bottom nearly to top; and luscious fruit too, when perfectly ripe. Mr. F. intends covering the whole of the wall with it. This plant ought to be more extensively cultivated than it is at present. Landscape gardeners will find it a very useful and appropriate plant for various purposes.

The asparagus bug, beetle, fly, slug, caterpillar, or whatever name you please to call the *varmint*, has just made his appearance here, just commenced nibbling the points of the shoots; and I may as well say here, that the first time I became acquainted with this *imp of darkness* was in my own garden, three years ago this summer; and I have manfully fought him ever since, till about three weeks ago, when I cried enough, and "threw up the sponge!" Their Jacksonian style of fighting and bringing up their reserves was too much for me; so I dug all the roots up, and flung them in despair on the rubbish heap.

Mr. Franklin asked me "if I knew how deep Asparagus roots went down." I answered, "They go down two feet, I know; I don't know how much further." "Well," said he, "I had occasion to dig down there six feet deep, and at that depth I found the Asparagus root, thick and strong."

Pardon, Mr. Editor, a slight digression, while I mention an incident which this circumstance has brought to mind. A few weeks ago I went over to Fox Meadow to see friend Ellis. I was accompanied by a grave and portly friend, who responds to the name of Captain. You know, Mr. Editor, if your readers do not, that the fine vegetable garden at Fox Meadow was, but a few years ago, a *veritable swamp*. Well, we were walking around, lavishing our panegyrics on the various

crops, till we came to a fine square of Lima beans; and I scarcely knew which looked the darkest, the foliage of the Limas, or the soil in which they grew. The Captain turned to Mr. E., and says he, "Do you ever manure this soil?" "No, sir," was the answer. "Only a little lime occasionally." "How deep does this soil go down?" was the next question. "*Right through!*" says Ellis. The Captain turned around and looked the picture of bewilderment at him! That look (I suppose to Mr. E.) was pregnant with doubts and interrogations, for he proceeded to modify or qualify his seemingly abrupt answer as follows:

"When I first came here it took me about a week to reconnoitre and cogitate about what to do. At last I made up my mind to locate the vegetable garden *here*. About the time, a few feet from where we stand, the farmer came along, and says he, 'Going to make a garden *here*?' 'Yes,' say I. 'You are, eh?' says he. Well, off he goes and fetches a pole ten feet long, and with one hand shoves it down pretty near out of sight. What little was left above the surface, he slapped his foot on, and put it right out of sight; and then, with the palms of his hands on his hips, he looked me straight in the eye and said, '*You'll make a garden here, will you?*'" Well, Mr. Editor, this is the spot where the Lima beans now grow so rank, and the soil goes *Right through*.

Reasoning from the facts stated above, I think it is highly probable that the soil in which Mr. Franklin's Asparagus grows, goes "*right through*" also.

Mr. F. has a little orchard of the choicest pears, all standards, and he spares no pains or expense in keeping them in good health and condition; and judging from the quality and quantity of fruit I saw on them, I infer they well repay him for the care he gives them. Whale oil soap suds he uses at least once a year, with scrubbing brush, on trunk and branches, with unsparing hand. When Mr. F. purchased the place, he discovered an excellent spring of water; over this he has built a pretty rustic house; the water runs from this into a good sized pond, or small lake; around this, well screened with shrubbery, grape vines, &c., is a cosy, romantic walk. At the lower end of the pond is a *ram*, which forces the water into a large tank in a tower on the top of the house. Last fall, a house, or covering, was built over the place where the ram works; it was arched over with brick; and to keep the frost from injuring it, 6 or 8 inches thickness of coal ashes was spread over the brickwork. This spring Mr. F. observed a bit of the common Periwinkle coming up in the ashes; so he thought he would plant a little more of it to try if it *would* grow in such stuff. Well, the few bits he put in have now grown in a dense mass all over it—about 15 feet square—and looks beautiful.

Mr. F. has grafted several wild and Isabella grape vines (underground) with Delaware, and other new kinds, and they are making a fine, compact growth. Being strictly *utilitarian* in his views and practice, he, Mr. F., has allowed Mrs. Franklin but a small space of ground for her flower garden; it is also on a rock, but having a fountain in the centre, and using such plants as stand the drought pretty well, a tolerable show is kept up all summer.

From here I crossed over to the Kingsbridge and Yonkers road. On my way I passed a house of Mr. Babcock's, where the late Dr. Moffat resided in the summer. In the vegetable garden here, I saw the finest crop of onions and watermelons that I have seen for some years. I think this is about as solitary and secluded a spot as can be found within twenty miles of New York.

There is a kind of bridle path goes through the woods from here to the Yonkers road, and to a lover of native plants, a ramble through these woods is a treat. In the swampy places, the handsome shrub, *Cephalanthus occidentalis*; the deliciously fragrant *Clethra alnifolia*; the dazzling *Lobelia cardinalis*, with its spikes of crimson scarlet flowers a foot long; the chaste and delicate *Spiranthes torilis*, or *ladies' tresses*; the tiny parasitical twiner, *Cuscuta Americana*, with its auriferous stems, enclasping the *Lactueas*, *Eupatoriums*, etc.; also several species of handsome Ferns. Emerging from these woods, near the road, is Mr. Odell's place. I did not go in, but was somewhat astonished at the very rapid growth the Norways, White and Austrian Pines, and Scotch Firs have made here the past two years. It sometimes surprises me to see the growth these coniferas make in some locations to what they do in others, without any apparent difference, or extra preparation of soil, and the like.

On the right, as you proceed on the road to Yonkers, is a large new brick house. This is Mr. Bruce's. It is a new place, and from the road, at present, looks any thing but inviting. An approach—or rather a road, I will say; an approach is too dignified a term for it—was made by some one, some time ago, and what is called in trigonometry an "obtuse angle" comes nearer to the shape and line of it, than any thing I know; this road, however, is condemned, and another, and far better one is commenced; but as there is a good deal of heavy blasting to be done, the work is at present suspended, in consequence of the family residing there this summer; but as soon as they leave this fall, the work will be commenced again, and finished during the winter.

Mr. Doyle is gardener here, ably seconded by Mr. Crowley, who is also a professional gardener; but being out of a situation at present, he prefers, I presume, "playing second fiddle" here to taking charge of a small, one-handed place, where he would have no scope for his abilities.

The house is built on a rocky ridge running north and south, and the land slopes abruptly to the road on one side, and still more abruptly on the other, or east side of the house. On this side is a deep and sudden declivity, running through a narrow, but thick belt of woods down to the kitchen garden, which is partly made, and cropped, and partly in process of formation.

Down on this flat is a range of glass, *lean-to*, about 100 feet long, or more, divided in the centre with a glass partition. The first house was filled full with *Fuchsias*, *Gloxinias*, *Achimenes*, *Caladiums*, *Begonias*, etc., all in perfect health and bloom. The other division is planted with grape vines. This is the second year; they are also the perfection of vigor and health. They were cut back last

fall to within about 5 feet of the ground, and from that wood they have, I suppose, from three to nine bunches of well-ripened fruit. This may to some of the *faculty* seem an overtax on young vines, but it does not seem so to me; for the young canes of this summer are right at the top of the long rafters, thick, firm, and short jointed, and the foliage large and healthy, without the least symptom of spider, thrip, or mildew.

On the hill, near the house, Mr. Doyle and his assistant have made a very pretty and effective flower garden. The ground it occupies is about half an acre; the shape, or outline, nearly a parallelogram. I do not think the plan is *original*, as I think I have seen it in Downing, Kemp, or some other work on landscape gardening; any how, it is a very good and appropriate plan for the place, and well executed, and, for this climate, remarkably well planted.

It is what we may call a geometrical pattern, on a kind of sunken panel, about six feet below the terrace that surrounds the house. The beds are cut in the grass, and in number, I think, from twenty to thirty.

The centre bed is a large circle, filled with *Salvia splendens*, with a few early flowering plants to give it color till the *Salvias* come in bloom. Around this, are four *segments* of circles, filled to match, two with *Vinca rosea*, and two with its sister, *V. alba*; not half a dozen plants, but from fifty to seventy-five in each bed.

Then the other figures are filled, some with *Lantanas*, some with *Petunias*, others with *Verbenas*, *Phlox Drummondii*, and about four small circular beds are filled with *Plumbago Larpentæ*. At the extreme lower end, where two walks diverge, is a fine large sweeping pear-shaped bed, filled with the choicest *Dahlias*. I noticed one beautiful white one, which I do not remember to have seen before; it was labelled "Agnes." If you do not possess it, do not forget it, Mr. Editor. *Perle de Beaune* is a good lilac, also new to me. This flower garden, Mr. D. informed me, is not finished yet. Some Irish Junipers, vases, etc., it is contemplated to introduce; also a Pagoda or summer house at the extreme south end, on a slight elevated rock, to make a finish or back ground, *Finish* reminds me that it is about time for me to finish. If I am not tired, I feel pretty certain, Mr. Editor, that you and your readers must be tired of reading this very elongated and prolix sketch of my **SHORT RAMBLE**.

[Not in the least tired. We have followed you all through with much interest. We saw the Fox Meadow garden when it was still partly in the condition described, and have heretofore taken occasion to compliment Mr. Ellis for the skillful manner in which he has drained it. We saw Mr. Bruce's place two years ago, and think there must be some mistake about the age of the vines. If our memory does not deceive us, some of the vines were half way up the rafters then. We passed the place again this summer. It is susceptible of being made a very fine one. The "road" is poor enough, and we are glad to hear that Mr.

Doyle has altered it. We hope the spirit for rambling will soon take strong hold of you again.—ED.]

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INTERIOR VIEWS, NO. 5.—EXOTIC GRAPERIES.

BY FOX MEADOW.

WE recollect many years ago, Mr. Editor, when our "whole" soul was in *rapport* with that most bewitching goddess, "Flora," how all the faculties of the human mind were assiduously directed to the "tinting up" of color, and the "drawing out" into symmetrical proportions, those little tender delicacies over which that goddess sways her regal sceptre; and how the smile from her beautiful features made the heart leap with joy, when we knew that smile was an acquiescence of the perfection, consummated through the care of a fostering hand.

There is not a son of Adam who has ever walked those beautiful paths in "Eden," but has felt the warm blood rush through his veins. Life was there! Spirit and energy were there! Love of God in nature was there! Intrinsic, inherent love of horticulture was there! But the "will-it-pays" *were not there!*

We see the devotee to Flora in his laboratory. Some new beauty has to be developed. We see also a number of ingredients standing separately, and ready for his use. Now watch him, and see how he compounds his materials. He has got an Erica in his hand, a Masonii major; the peat is taken, to which he adds his silvery sand; and how carefully he incorporates these materials together; and after the proportions are carefully mixed, we see him take hold of a handful of this material, and look at it, and then squeeze it; and now he shakes his head, for the mechanical condition of this material is of that nature, that when *pressure* is applied, it *remains* compressed and hardened. This will not do, for water will not pass freely through it, and the consequence of this soil becoming unaerated, would soon destroy the life it was intended to support. The small and tender threads—absorbing fibres, though dependent on moisture as the means to continue life, an excessive gorging with this very element will destroy the whole structure, and life bid us farewell. Watch the remedy! What is it? **MORE SAND!** Readers, there is not a plant cultivated in a pot by an educated plants-man but what *sand*, and the *quality* of sand to be used, stands of the first importance. There is not a hard or soft-wooded plant grown in a pot, we repeat, on which the very essence of human skill is to be applied, but what *sand* forms one of the principal compounds! We beg the reader's pardon; we have made a gross mistake! There *is* a plant cultivated in a pot, in which compound of soil we have never yet seen an atom of sand ingrediated! Thousands are grown annually in pots, and not one jot of sand put in the soil! How could we have made such a gross mis-statement as the above? What species of plant is this which does not require sand in its compound? We will tell you. It is a plant whose roots are *not*

possessed of absorbing spongioles, into which is drawn aqueous matter, but roots possessed with mouths, into which are set "cutters, tearers, and grinders," in order that the solid matter placed for its support can be properly masticated! This species of vegetable phenomenon has a stomach also, into which passes, rotten dung, ground or broken bone, lime, super-phosphates, guano, oyster-shells, beef bones, and dead horses. After these materials have gone through the necessary transformations in this plant stomach, the chemical elements educted may, or may not, have something to do with the constituent elements of this wonderful plant's organism. We will now tell you the name of this most wonderful of all plants: it is "*Vitis vinifera*."

However careful the cultivator may be in compounding his materials, with a proper understanding for the necessity of sand to induce fibrous roots, and of its property for regulating the soil's mechanical condition, the moment he comes to the grape vine, all his previous reasoning seems to be at once ignored, and he treats the vine as he would treat no other plants in pot cultivation; for into the pot is gorged rotten dung, with a host of other things, the tendency of which is to become a solid, greasy mass of constantly decomposing matter. Now if it is of importance to have sand, and a goodly proportion of it, incorporated in our soils for a high state of pot culture, the use of which being to induce fibrous roots, and to keep the compost open and porous; why is it not of the same importance in the pot culture of the vine? And if in the pot culture of the vine, why not in the open border? If a pot containing a few quarts of soil requires its proper proportion of sand to keep this small amount of compost sweet, open, and porous, for a few months' time, is it not of vastly more importance in large masses of earth, where its very weight naturally compresses it in a short time to almost a solid mass? We think this much is self-evident. How can we reconcile the fact to our minds rationally, that a border composed of constantly decomposing, *rotting masses of garbage*, can be the means of producing healthy roots? With all this transformation taking place in the soil through the rotting of the materials placed in it, we get a transformation of the roots, and this transformation is, passing from life to death! There are none of the higher orders of creation in either the animal or vegetable world which feed on *rotting matter*! Such feeding belongs to the swine and stench worms, which are down, down, down! beneath the light of our bright and beautiful noon-day sun! Admitting that the *educt* of such matter in question, forms some of the constituent parts of which the vine and its fruit are composed, there is no reason why decomposition should surround living roots! and the latter be compelled to wait for the necessary element of food being formed by decomposition and *through* transformation? It is true, that the common soil of such borders being absorbent, holds such gases thrown off by the act of decomposition as may in time be of great benefit to the vine; but the means instituted to gain this end is of a more ruinous nature to the vine, and its roots, ten thousand times over, than if the soil was entirely destitute of any stimulating

food whatever. The reader should understand that there is a vast difference between heaping masses of such decomposing materials as are commonly recommended for use in vine borders, and the applications of the same, or similar manures, in lighter doses to the soils of the open ground: for in the latter case the soil is regularly worked, and the direct action of the air is upon it, and through it. But a vine border, which perhaps is four feet deep, and filled up with a mass of decomposing materials, becomes, in the course of two years, a solid mass of greasy, sour matter, in which the living roots of any robust plant would soon die. We have previously explained the reason why vines planted in such material escape death, and this is, if strong, healthy vines are planted at the commencement, the roots run along in straight lines, as directed when planted, and being under the influence of the atmosphere, they travel fast, and consequently are very soon into ground on the outside of the border. In such cases as this, and there are hundreds of them, the roots escape the evil consequences of such decomposing matter. On the other hand, where poor rootless plants have been used, the roots of such will be found in a dying condition down at the bottom of the border, and under the costly mass of greasy acids which has been compounded by the direction of kind ignorance.

In our last article we promised to proportion the materials of which we form vine borders. In the first place, the reader need not trouble himself in looking for his memorandum book, to take down the names of the several compounds which we make use of; but the *quantity* of each used it will be, perhaps, worth while to make a note of. Another thing is, what we are about to divulge, is a *very great and highly important SECRET*, and therefore the reader, if he makes his vine border of our "highly concentrated," and "double distilled," he must take care that upon no conditions whatever does he mention the secret of our materials to *his neighbor*. We are almost afraid, however, to tell, because of the vast expense incurred in the concentration of such valuable and highly important elements of food, "discovered recently" to be of the utmost importance in the "fruit formation" of the plant; we are very much afraid the "will-it-pays" will have very serious scruples about using of it. But if these individuals can be really assured, that these new and important discoveries have led to the combinations of such ingredients in the vast compound of border making, as shall add very materially to the size, color, flavor, and general superiority of fruit altogether, they may perhaps be induced to try our new and very valuable compost. We will vouch our word and honor for the whole and every particle of it, *if you will only try it*. Now then, reader, you shall have it: Sand, Loam, and Muck. The proportions? *one-third sand, one-third sandy loam, and one-third of muck*. Now we hope you will not be frightened at the expense of these materials; and if you wish to see and know what these materials look like combined together previous to using them, just get the proportions together on a table, in a small quantity, and mix them well together; and if you are any judge of the mechanical texture and con-

sistency of soils, you will admit that this compound will never become a body of *humus*, created by the aid of an excess of nitrogenous or carbonaceous matter. In the first place, this border will never become solid. Air and water pass freely through it. It never becomes saturated with water, nor entirely destitute of moisture. It causes the vine to form a host of small fibrous roots in the place of long coarse ones resembling ropes, with their mouths any where but inside the border. The roots are healthy and innumerable; fine and beautiful in their texture. The roots formed during the growing season do not die during the winter, but ripen in the fall of the year, as do the wood of the vines inside the house. The wood produced by vines grown in this compost is remarkably short jointed, and round, with the fruit buds well developed. The fruit itself is more sugary, and the vines scarcely ever seem disposed to mildew. The stems of the leaves are remarkably short, but strong and thick, and the foliage generally of a very dark green, with marked substance of texture. The fruit is solid, and entirely devoid of that aqueous sweetness so often found in grapes grown in borders of a reverse order. The fruit hangs well and long after becoming ripe. The parts of fructification are stronger, and better developed, causing the WHITE MUSCAT OF ALEXANDRIA to set its fruit very well without the aid of fire heat. "Shank," which is a disease that often takes a goodly portion of a crop, we have never known to appear, as a result originating from diseased roots. This disease, however, can be inducted into the systems of the most healthy of vines by over cropping, and consequently "shank" from this cause has no connection whatever with border making.

I have now given the reader the materials of which we compose our vine borders. Some who wish to grow grapes, may not have the "muck" spoken of, and in such case substitute "leaf mould," and if this latter can not be had, get the wanting proportion in the form of moderately fine charcoal; and if no other material can be conveniently got but the sand and loam, use them alone; but do not use equal proportions; put three parts sand and one of loam. There must be sand enough in the border to cause the food and air to pass down through it. This mechanical condition of the border, it will be observed, is its drainage, and this drainage is the means by which the food of the vine is carried down through every particle of compost to the absorbing small fibrous roots.

(TO BE CONTINUED.)

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#### ROGERS'S HYBRID, NO. 15.

BY THE EDITOR.

WE have already figured this new grape in a previous number, with a description of it by a Boston friend. We have lately received some fine clusters of No.

15 from Mr. Rogers, taken from young vines; two of them are much larger than the illustration. Mr. Rogers says in his letter: "These were grown in the garden of Mr. Wm. Harrington, of this city, (Salem,) who resides about half a mile from me. His vine has been out four summers, and last year produced a large crop, he having permitted it to bear all the fruit it then showed, which many thought would injure the vine so that it would produce no fruit another season; but this year it came out fuller than ever, but was not permitted to bear but one bunch to each shoot; about two hundred and fifty were thinned out, leaving to ripen about one hundred and fifty bunches. There were several as large and heavier than the largest now sent, and none have been grown by girdling, which I consider spoils the quality of the fruit, though adding greatly to the size. \* \* \* Mr. Harrington planted his vine (a small one in pot) about three years and a half ago in the common soil of his garden, without any prepared border, and not in the best position, being on a close board fence, facing nearly east, very little to the south, and having a Concord vine in front, which shades it somewhat; but the No. 15 is a week or ten days earlier, and nearly twice the size of this Concord in a better position, and more eatable than Hartford in the same garden from the earliest period of ripening."

We have watched the progress of these Hybrids with much interest, as marking, in connection with Mr. Allen's hybrids, a new era in grape culture. The question, as to whether the native will cross with the foreign grape, may now be considered as settled. It ought never to have been mooted. All of the Rogers's Hybrids that we have are good growers, Nos. 19, 3, and 15 being the strongest. Tiny little vines put out last spring have made from 8 to 22 feet of good wood, under fair treatment. In regard to the fruit of No. 15, we find the bunch to be large and handsome, the color, however, a little dull. The berry is also large, and, with a few exceptions, quite round. The skin is thick, and only a little tough. The flesh is soft and tender, but not melting, with some toughness at the center; it is also sugary, a little juicy, and somewhat buttery, like the Concord, but with less of the native flavor. It is also less musky than the Concord; and this will grow still less with age and culture. The flavor is pleasant, but not vinous or spiey. The after taste is not so rough as the Concord, Isabella, or Hartford Prolific. It is a good grape, with distinct characteristics, and, if sufficiently early and hardy, (which seem to be pretty well established,) will prove of value as a market fruit. We hope Mr. Rogers will continue his experiments in hybridizing till he gets a grape of the size of No. 15 with the vinous spirit and purity of the Delaware. We append a pomological description:

No. 15.—*Bunch*, large, moderately compact, shouldered. *Berry*, large, round, a few slightly oval. *Color*, dark claret, with a thin bloom. *Skin*, thick, somewhat tough, with some native aroma. *Flesh*, soft, sugary, moderately juicy, somewhat buttery, with some toughness at the center. *Flavor*, pleasant, but not vinous. *Quality*, very good.

## REJUVENATING OLD HOUSES.—NO. IV.

BY MYRON B. BENTON.

I WISH to offer a few words upon the immediate surroundings of this class of old farm-houses. Let it be borne in mind, that these remarks are not intended to refer to the laying out of new places—though, of course, they are in a measure applicable to all—but wholly to a residence which has been long established, and one where numerous defects have accumulated in the course of years. A few of these can be abolished, some partially remedied, but some must remain.

It is impossible to make a picture which will embody the features of all; but there is so much uniformity in many respects among this class of buildings, that one may be pictured which will give the principle characteristics of the largest share of them. The house, with a front door into a hall between two rooms, stands within a very short distance from the highway. The barns, if not standing in front across the way, are upon one side at a little distance; and the vegetable garden is close upon the other side. There is thus a small narrow strip of yard against one or two sides of the house, adjoining the principal rooms. And what a scene does this little yard present! O, you earnest, denouncing, pathetic pleader for the setting out of trees; you who write several stirring articles in every number of the various agricultural and horticultural journals, which periodically reach the table of that tender-minded farmer! His naturally sensitive conscience has become diseased and morbid; so has your preaching upon this subject wrought upon him. So constantly has he been dealt with, in season and out of season, to set out trees, that he has come to fear that he will be thought a savage and an outlaw, worthy of no consideration from his fellow-men; and he thus devotes considerable time annually to the placing of trees around his house. Where are they set out? Not in the garden, for good reasons. Vegetables would not grow in such a shade; but the farmer has failed to learn that human beings will not be healthy under the circumstances. The out-buildings occupy the ground on every other side; so all the trees are transplanted into that narrow strip of yard. How long would it take to fill that little space with all the trees that it should hold? And yet this man yearly devotes a season to the work there! The result is far from gratifying. The trees are so crowded and jammed together, that all sunshine, to say nothing of a reasonable share of reflected light, is excluded from the interior of the house. The yard is a damp, mouldy, unwholesome, unsightly place. There is no turf, for it is impossible for grass to grow in such a place.

In ninety-nine cases out of a hundred, in the country, the advice should be to use the axe instead of the spade, to improve a place. Cut down nine-tenths of the tree and shrub growths, and admit the sunshine to the house through broad openings. Let the turf—the sweet and green grass, thick and fresh, sweep clean up

to the foundation stones. A little shrubbery should be admitted, and a few vines to clamber over the house; but nothing in sufficient quantity to prevent a clean, wholesome growth.

In improving a place like this, the principal thing to be obtained is room—more room. Around almost any old farm-house, this is sadly wanting. Where every thing has been so long established, it is difficult to break through the old fixtures. The ground occupied by the vegetable garden seems generally the only available space. Too prominent a place is commonly given to this department. It is not that it should be hid because it is useful instead of ornamental. On the contrary, many of the most useful objects around a farm-house are an added attraction if in plain sight. They give character to a place. Barns, hay-stacks, wagon-houses, etc., should not be placed as if there was any attempt at concealment. They should not come into the view, however, obviously; not as if cattle and sheep were of more importance than the farmer and his family, but still such objects should be in sight as representing his honorable vocation. Good taste—one that has been cultivated—will decide as to the exact degree of prominence to be given to the out-buildings of a farm establishment; and while sufficiently removed to make them subordinate in character, they will be near enough for convenience.

With regard to the vegetable garden, I think its usual position too prominent, having the most conspicuous place on the premises. It is generally close to the street and the house. Its appearance is pleasant, and even pretty, early in the spring, when the beds are newly laid out; but through the middle and latter part of the season, it is positively unsightly, so close by. It looks seedy; the cabbage, beets, onions, beans, etc., lose all their juvenile freshness, and become forlorn and wretched; to say nothing of the weeds that will grow so fast during haying, and other busy seasons when they can not be well looked after.

In fact, the kitchen garden should be banished to more retired quarters; and I would further suggest, to a place where more of the work it requires can be done by horse power, and spare a portion of the human power wanted in so many other ways. It is a great labor to cultivate a quarter of an acre wholly by hand, and in a country where this is so costly an item, every means should be taken to lessen it.

[It is quite manifest that Mr. Benton has been about in the country with his eyes open. It is quite true that there are many, very many, just such places as he describes, and we hope these articles will fall into the hands of some of the owners. There are others, again, where the admonition to plant trees will apply with full force. We like shade, and breadth, and massiveness in their proper place; but we abominate all systems of planting which result in shutting out from the mansion the blessed light of heaven. They are demoralizing and misanthropical. Let sunlight into the house, and you let joy and gladness into the heart.

Make your shady corners and cosy little nooks, but let the sunlight play around them.—Ed.]

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## THE PRACTICAL PAPERS. NO. VIII.

BY OLAPOD QUILL.

*Dialogue. John and the Old Gentleman ; or, the "old way" not always the best.*

SOME farmers, even in these days of improvement and widely disseminated agricultural knowledge, are quite willing to abandon their practice, to their own preconceived tastes and prejudices, not having the patience requisite to make a serious investigation into the natural laws that govern their business. Such men never examine, or but rarely look into those great scientific principles which, if practically applied, would cause two blades of grass to grow where but one did before. As to the use of guano, and the many new and valuable fertilizing agents, they never think of using them. "Nonsense," says such a one; "book farming; all fudge; give me the old way; that is good enough for me. My father always farmed in such manner, and I am not wiser than my father."

We once heard one of these farmers, who was wise in his own conceit, ask his son: "John, what has eaten all the leaves off the Gooseberry bushes in the garden?" "The caterpillars, sir." "The caterpillars! kill them, then." "Yes, sir." The old gentleman went out into the field to his work; John took the old chaise, and drove off to town for a box of whale oil soap. He shortly returned with his antidote, and after mixing it with water in proper proportion, set about its application with a skillful hand. While he was thus engaged with a good sized garden syringe, administering in wholesome quantity this fertilizing, worm-destroying fluid, the old gentleman entered the garden. His first words were, after looking at John with perfect astonishment for a moment or two: "What are you doing thar, with that are ternal old squirt gun?" "Killing the worms, father." "Killing the worms! Put that thing up, and get away with your book farming." "But, father," replied John, "the worms and caterpillars will eat—" "Let 'em eat; but I won't have any book farming on my premises, eat or no eat." The old gentleman went to his dinner, and thought no more about the Gooseberry bushes, the caterpillars, or the squirt gun, and John, for several days, reigned lord of the garden, and daily showered his favorite gooseberry bushes with the new fertilizer of which he had read, and which he had seen his neighbor use with good success.

One Monday, a few days after, the farmer thought he would take a look at the garden and the gooseberry bushes. On entering the garden he found John hard at work with the "old squirt gun," and beholding at a glance the good effect of John's scientific application, he was at once convinced that there was "something in the thing, after all." So much interested was he in the *new fertilizer*, so delighted with the beautiful greenness of the gooseberry bushes, that he could scarcely

contain himself. Seizing at once the syringe from John's hand, he commenced a vigorous application of the fluid to the bushes. John looked at him for a moment with a peculiar expression of countenance, and then quietly remarked, "Father, that is the old squirt gun ; what do you think of it ?" "*Think of it?*" said he. "I'm an old fool, that's all. Squirt away as much as you like. Go and buy you the best garden syringe you can get, and use it. You and I must look in to this book farming a little more. I am sure there is something in it."

Thus by the observation of a single fact, one of the most strenuous opposers of "book farming," or theoretical knowledge, became convinced that in these latter days, there was a possibility of a man's being even wiser than his father.

Still we find many men content to plod along the same old road their fathers trod, manfully buffeting, I admit, all the toils of the journey, without the will to make a single experiment, whereby they might improve the old beaten track or make it better. Such may, and do, by a persevering, laborious industry, succeed in raising a crop, of gaining a livelihood ; but they will never know from experience the true dignity and independence arising from a thorough scientific knowledge of their calling.

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## GRAPE WINE FOR THE MILLION.

BY AN AMOR-ITE.

THE Grape crop on the Hudson, like all other fruit crops, has this year been very abundant. Many of your friends will probably be pleased to have a simple and reliable recipe for making wine. My experience is at their service ; and if any of your intelligent readers succeed as well as I have in making a really good wine, I suggest that they send a bottle to the Editor the day before he invites me to dinner. I shall endeavor to make my recipe short and comprehensive.

1st. All the manipulations should be conducted with scrupulous cleanliness. All the vessels should be procured beforehand, to contain the fruit, broken grapes, and juice.

2d. Gather the grapes in a clear dry day, and at once have them picked over, removing all green berries, and all that are soiled, wormy, or decayed.

3d. None but fully ripe grapes should be used to make choice A No. 1 wine.

4th. Break the grapes in a tub with a pounder until all are mashed. I use a clean Welsh butter tub about two feet deep, flaring at the top. Cleanse it with wood ashes and water if it has been previously used, to remove all grease ; soak it well with hot water and scour it with sand ; turn it upside down, and fit a piece of board to the bottom even with the chime, to prevent knocking the bottom out.

5th. When the grapes are all mashed, put about four or six quarts into a strong

light bag; thin hempen coffee bagging is best; tie loosely, and press out all the juice by means of a screw or lever press; do not press a second time for the best wine.

6th. The juice obtained will be thick; it must not be strained; the mucilage contained therein is quite necessary to the fermentation, and it will in due time "find its level" at the bottom of the cask. Do not put the skins of the grapes into the fermenting cask.

7th. The fermenting cask must be clean and pure. It should be nearly full, and fitted with a tube bung, a tube made by a tinner, in the shape of this—[?]. It will cost six cents. Let the longest arm pass through the bung, and the shorter one enter a cup of water, so that the carbonic acid gas may escape without admitting atmospheric air.

8th. The fermenting cask should be kept in a warm room, and the fermentation should go on until the bubbles cease to rise in the cup of water. Draw off the wine as soon as it is clear, into a clean cask, and place in a dry cellar; a vent hole with a spile in it, will enable the vintner to allow the escape of gas, and should be looked to frequently, being careful to stop the vent immediately.

9th. Draw off the wine, during the month of March, from the lees into a clean cask, and let it stand until the following October, when it may be bottled. Use the best velvet cork, first wetting them with wine, and make them go tight, driving with a wooden mallet while the bottle is standing on a smooth hard surface. If held up in one hand and driven with the other, the bottle is liable to break; so also will it break if the bottle is too full.

10th. Treat your friends, don't forget the editor, and drink a little for the stomach's sake. A reason why you should not drink it all at once is, that it will improve by age.

I have said nothing about sugar, which with some persons is inadmissible, but if one has neither Delaware, Diana, nor Hyde's Eliza grapes to make wine of, and nobody has these in sufficient quantities yet, he must use the kinds in cultivation, Catawba, Clinton, Isabella, &c.; these require an addition of grape sugar to produce enough alcohol to make them keep. Under no circumstance must apple brandy or other liquor be used for that purpose, as the aroma of the wine is thus destroyed. Then the deficiency must be made up with the very best refined loaf sugar, to be added to the grape juice and fermented with it; this is first converted into grape sugar, and then into alcohol. The quantity of sugar to be added depends upon the ripeness of the grapes. Good ripe grapes contain ten and some twelve per cent. of sugar. One pound or a pound and a half of sugar to the gallon will add enough to equal fifteen per cent., quite sufficient to produce within a fraction of seven and a half per cent. of alcohol, the amount required to prevent acitous fermentation. Wine with this quantity is far better than if stronger; it will "cheer but not inebriate;" neither the chemist nor the thin-skinned Tartar can detect it. It is a mistaken notion to suppose that sugar is added to the must to sweeten the

wine ; if well fermented, it simply adds strength. Sweetened wine becomes sirup, and is no longer wine. The usual practice is to sweeten after fermentation ; hence the sugary taste. For uneducated palates, it may be sweetened when ready to drink, as the sailor makes his switchel, half molasses and half rum, and may be thus rendered *nearly* as palatable. No water must be added to the grape juice except for the purpose of producing a light drink, which will not keep, and must in no case be added to the real wine. Water is an adulteration of wine, though a learned judge has decided that it is not of milk ! Those who think water an improvement to wine, had better try the experiment on a small scale, and see the folly of it for themselves. A bottle of good wine will cost four to six cents more than the poorest. Really good wine can not be made of poor materials, such as unripe fruit and brown sugar, but I will give the recipe to make the best wine possible of unripe grapes :

- 1st. Let the manipulations be as before described.
- 2d. Select the ripest grapes you have.
- 3d. Add three pounds of the best sugar to each gallon of juice, and be sure that it ferment until all sweetness disappears. Add no spirits.

4th. With a lively imagination, equal to that of the Marchioness in Dickens' Old Curiosity Shop, putting it " very strong," one may suppose he has good wine.

The recipe for poor wine is to use poor materials. Success will follow even with cleanliness.

Good vinegar may be made from sour grapes, and grape skins, by adding two gallons of water and one pint of molasses to each gallon of juice, and keeping it moderately warm.

If not out of place here, allow me to say a word on the grape crop of this region. Those who have read and followed your Hints have ripe fruit to send to market, and are getting eight and nine cents for Isbellas, while the quotations are two to five cents ; they also have ripe cane for the next year's crop, while the larger number of grape growers have neither ripe fruit nor ripe wood. While shipping fruit to New York on one of our barges, I was delayed by two men who were bringing packages of grapes ashore. As this had quite the appearance of a water-running-up-hill process, I inquired what was the matter, and was informed that these grapes had made two voyages to New York, and were returned, marked " no sale," an offer of one cent a pound being the maximum. The owner kindly permitted me to look into one basket. It contained small bunches of unripe grapes. I suggested that he had picked them too soon. Oh no, said he. I did not pay much attention to my vines this year. I neglected to prune them until it was too late, and then I got so busy with my spring work that I did not plow among them, and neglected to tie them up. I think the vines bore too heavily. My fruit did not ripen well nor the wood either. The fact is, the grape business is a failure, I don't believe I shall have ten pounds of grapes next year. Last season I asked this man to take the HORTICULTURIST, but he said, as it

was war times, he would try and save the expense. My opinion is, that he has saved it over the left shoulder. Perhaps my receipt for making vinegar will be of service to him, and I give you his address, hoping you will send him a copy.

[We must inform our readers that no good wine can be made after this receipt without a strict observance of the 10th rule, especially the second clause. We shall send the HORTICULTURIST to your misguided friend. Our subscribers do not sell their grapes for a cent a pound, and have them returned even at that. We can not be expected to feel much sympathy for men who risk their crops for the sake of saving a couple of dollars, though we think such things are much to be regretted.—Ed.]

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### THE ADIRONDAC GRAPE.

BY THE EDITOR.

In our number for March last we gave a drawing of this new grape, with a description by a correspondent. We lately received a sample from Mr. Bailey, of Plattsburgh, N. Y. Our frontispiece in the March number is a very good representation of the size and form of both bunch and berry. In general appearance it resembles the Isabella, but the bunch is more pointed, and the berries not quite so oval. The skin is thin. The flesh is juicy and crisp rather than melting, with a little hardness in the center. It is quite sweet, with a flavor that reminds one of the Black Hamburg; yet it is not high or very decided. This Hamburg flavor has caused some to doubt whether it is a native; but we have the vine growing, and its native character is unmistakable. It is said to ripen two or three weeks before the Northern Muscadine and Delaware, which would place its season, in many localities, early in the month of August. If this should prove to be so, its earliness and good quality will give it much value for northern latitudes. Another year may add something more to our knowledge on this point. It is not always safe, however, to predicate the earliness of a grape upon the locality where it originated, for local causes are sometimes concerned in its maturity which do not operate generally. We hope the Adirondac, however, may prove to be quite as early as it is thought to be, for it will give us a starting point for something else, independently of this. We believe the Fruit Committee of the American Pomological Society reported it as "promising well."

## THE PRAIRIES AGAIN.

BY CHARLES S. KENDERDINE, RICHMOND, IND.

I NOTICED a communication on Western Prairies in your valuable work, from the pen of an able writer, "Why are they not Forests?"

I wish to differ from him a little; also from the popular opinion of the day, or, at least, other reasons worthy of note can be submitted in addition to his, that have some bearing on the cause. In the first place, I have resided on the beautiful Western prairie of Iowa for the last seven years; and as my mind has often been deeply impressed with the sublimity and beauty of the works of nature in this particular, and being placed in a position by my fellow-citizens, where it becomes my duty to inform myself in agricultural pursuits, both in the examination of the soil and its products.

I have noted the soil of different prairies—their locations, their different qualities; and have noted particularly the great depth of soil, caused, no doubt, by some great freak of nature, as the soil of the timber land, in many instances adjoining was not one half the depth, and of a heavy clay soil, while the prairie was of a loose black loam, often quite sandy, even small pebbles, that could not have been produced by fire. It is said, a cause has its effect. We find some parts of our Western prairies have been settled for the last twenty years; and interspersed with these settlements we find thousands of acres of land in the hands of speculators uncultivated, and where the prairie fires are not permitted to spread; still, we find neither sprout nor shoot of any kind, except on a kind of brush land that is distinct from the clean prairie, which often extends as far as the eye can reach, the grass partially kept down by herds of cattle from adjoining settlements.

There is no doubt but that seeds of different kinds often drop on these prairies by birds or strong winds from the timber, but by some cause they do not take root. It seems the soil is not adapted to the growth of timber until cultivated. We find the prairie in this State to be high rolling land; the timber land to be that portion skirting the rivers or streams, generally of a thin shallow soil, except the bottom land between the bluff and the stream, and in many instances this portion to be void of timber, particularly that part that is of a deep and unnatural soil. Now this is evident to my mind, that the majority of the prairie land has been prairie from the time of a great flood, or from some convulsions of nature, and has remained so ever since, the decree of an all-wise Providence for the benefit of poor frail man, although such has not been the ultimate result; for, in consequence of the ease in bringing forth the products of this loose loam, and the abundance of the crops, it has naturally produced indolence in our agriculturists, after producing a crop of corn on these prairies, say twenty years on a piece of

land successively, which can be done, and still the soil retains its color, and its richness to some extent, and is much preferred for, and considered better adapted for fruit trees, or for planting groves on. It is evident that the prairie soil is largely impregnated with magnesia and lime; so much so in some locations, that lime is no benefit as a stimulant. I have often reflected in my mind, the number of times it would require the fires to run over these prairies to create a soil from one to two feet deeper than the adjoining soil of the timber, as we often find it; and we often find the soil varying; sometimes the sand on top, sometimes the loam, on a rich clay of a dark color, being evident it came there promiscuously.

These are my observations. Use them, or a part, as you think proper.

[We had no idea, when we published the first article on the Prairies, that it would lead to such interesting developments. We have now had three interesting and valuable articles on the subject, all of them from parties who have spent much time on the prairies, and one of whom has examined them as a man of science. All three in the main agree, but differ not a little from most travellers and novelists. In solving the question, "Why are the Prairies not Forests?" there will naturally be a difference of opinion, since the cause is not apparent. Indian tradition would lead us to believe that the prairies were burned over many hundreds of years before the white man took possession of this continent. This fact, with its results, will form a very interesting subject of investigation for our correspondents, who, we hope, will send us still more material for history.—ED.]



## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to THE HORTICULTURIST."

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A WORD FOR OURSELVES.—As we approach the close of the Seventeenth Volume of the HORTICULTURIST, it appears proper to say some thing respecting our plans for the coming year, January, 1863, being the initial number of the Eighteenth Volume. We believe that all our promises made for the Seventeenth Volume have been more than fulfilled. The high standard always occupied by the HORTICULTURIST has been steadily maintained, and the substantial opinion of the public awards us success. The result of this war year now closing has, in a business point of view, been very satisfactory to us; only a small proportion of our subscriptions have ceased, and the ranks thus decimated have been largely increased by new recruits. Our advertising patronage has been fully up to that of the most prosperous year, and promptly paid for; the only changes, therefore, that we shall make for the future will be to increase the value and excellence of all its departments.

We contemplate illustrating our pages to an increased extent, and to give additional attention to Rural Architecture; a feature which characterized the earlier volumes, and which is universally desired. The subject of Grape Culture, both in open air and under glass, will be fully treated. We shall furnish the grape grower such information as he can obtain from no other source. On all matters relating to the progress of Horticulture, and other subjects coming within our sphere, we shall give the best practical instruction.

We hope not only to retain our present handsome list of subscribers, but that each one will interest himself in obtaining others. Our Club terms are so favorable that none who have any interest in Horticulture and its kindred pursuits, can afford to be without this magazine.

Now is the time to form clubs and send in subscriptions for the New Year. Those new subscribers who are prompt will receive in addition the numbers of this year that are published after the receipt of their remittance.

The volumes for 1860, '61, and '62 are offered at premium rates. They commence with the editorship of Mr. P. B. Mead, and contain all the connected series of

articles on Grape Culture, Landscape Adornment, and other subjects. The supply is limited, and they are not stereotyped.

In conclusion, we will say that not only will the high character and fine typographical appearance be preserved, but all progressive improvements will be taken advantage of. We have the capital, the ability, and the intention to keep the **HORTICULTURIST** in a leading position, and through war or peace, through adverse and prosperous times, we shall sustain its uniform excellence.

Our terms for 1863 will be

One copy, one year, invariably in advance,	-	\$2.
Four copies, " " "	-	6.
Clubs of seven and one annually to agent,	-	10.
Bound volumes, 1860, '61, and '62, and subscription 1863,	-	7.

Address all subscriptions invariably to

MEAD & WOODWARD, Publishers,  
37 Park Row, New York.

**THE DELAWARE GRAPE.**—Our readers are perfectly familiar with the position we have taken in regard to the Delaware grape. We have repeatedly stated that very few persons had any proper conception of what it would be when the vines had attained age under generous treatment. Some of our friends thought we had overestimated it; but bunches and berries fully equaling in size our statement are becoming more or less common, while some surpass it. Our own knowledge made us confident that our position would be completely vindicated, and we determined this fall to give our readers some evidence of it. With this view we selected a bunch from the vineyard of B. H. Mace, Esq., of Newburgh, and placed it in the hands of C. W. Tice, Esq., of Newburgh, who, as a painter of fruit, is not excelled by any artist in the country, and equaled by very few. Mr. Tice has given us a life-like portrait of the Delaware. As an exact portrait, as well as a work of art, it is the best grape portrait that we have ever seen; nothing of Hall's that has ever come under our notice equals it, and that is the highest praise we can bestow upon it. The bunch selected measures nearly seven inches in length, and four and a half in width, with berries like the Diana. It was not the largest we have seen during this season, either at Mr. Mace's or elsewhere. This fine portrait we propose to have executed for our readers in the highest style of art, cost what it may. We shall publish it in the April number, beautifully colored, and furnish it to all our subscribers. We mean to make it the best thing of its kind yet issued. We also propose to publish in the fall a colored plate of one of the best Strawberries or Pears. To non-subscribers, or those who do not take the magazine regularly, the price of the colored numbers will be 50 cents each. In addition to all this, our monthly frontispieces will be continued, and our usual handsome typographical appearance strictly maintained.

Our present subscribers are requested to renew their subscriptions as promptly

as possible, and to use their influence among their friends to induce them to subscribe likewise. This will enable us to adjust our edition, and lay out our future plans to the best advantage. We shall appreciate all such attentions.

**FRUIT FOR OUR WOUNDED AND SICK SOLDIERS.**—The heroes of our armies especially the wounded and sick, have claims upon us all which we must not neglect. An appeal comes to us from the sick and wounded for dried and preserved fruits, especially dried apples. Hundreds of our readers have more than enough and to spare. With a harvest of fruit that has scarcely ever been equaled, it would be a shame to us all that our sick soldiers should want for it as a comfort, or even a luxury. Let societies be formed, and social gatherings held, therefore, all over the country, for the preparation of fruit for our sick and wounded soldiers. Think what blessings will ascend to Heaven for you. A few days since we saw a wounded soldier drop one of his crutches, and crossed over to him and picked it up. We could not hear his words of thanks, but we can not, and do not wish to forget the look he gave us. We shall cherish it proudly as long as we live. Do not let it be said that horticulturists contributed nothing of their stores to mitigate the sufferings of the sick and dying. We gladly make room for the following circular of the Sanitary Commission:

CENTRAL OFFICE, SANITARY COMMISSION,  
Washington, October 2d, 1862. }

The inquiry being frequently made whether the Commission wishes to receive apples for the use of the wounded, it should immediately be published, as widely as possible, that dried apples can not be sent to its depôts in too large quantities. Town and Village Relief Societies are requested to make arrangements for paring, cutting, and drying by their members, and such volunteer assistance as they can enlist, and to notify farmers that they will receive such good fruit as they may be disposed to offer and are unable themselves to properly prepare. Dried apples may be sent in barrels or boxes, or in strong bags marked "To be kept dry." Dried fruits of other kinds, and all good canned fruits, will be very acceptable.

FRED. LAW OLMSTED, General Secretary.

**DEATH OF MR. WILLIAM REID.**—We are deeply pained to announce the death of Mr. Willian Reid, of Elizabeth, N. J. The event was sudden and unexpected to all. Attacked with disease of the heart a few days after his return from attending the meeting of the Pomological Society, he lingered a brief time, and then passed, as we hope and believe, to a better world. Mr. Reid occupied an enviable position in his profession. He was noted for his integrity and uprightness in business, and was highly esteemed in the social relations of life. His nursery has often and justly been called a model, presenting, indeed, the appearance of a highly kept pleasure ground. Some extended notice of Mr. Reid's life we hope to present hereafter. The nursery business, we understand, will be con-

tinued by the family, who, we hope, will strive to maintain its high and well-deserved reputation.

**FIGS.**—We are indebted to Thomas Ingham, Esq., of Fort Washington, N. Y., for a basket of very fine figs, being the second crop of the season, which consisted of some 500 figs. The tree is bent down and covered with earth during the winter, and produces two good crops annually. Mr. Ingham gave us some interesting particulars in relation to his mode of cultivating the fig, which we shall soon lay before our readers.

**HORTICULTURAL SOCIETIES.**—The exhibition of the *Brooklyn Society* is conceded to have been the best it has held. That of the *Newburgh Bay Society* was also its best, and was well patronized by the public. The *Poughkeepsie Society* also had a good exhibition, which the people there did not seem so well to understand. Our accounts of these and others we are compelled to pass to our next issue, much to our regret.

**EVENING PARTY APPLE, BY CHAS. DOWNING, NEWBURGH.** (*See Frontispiece.*)—Tree, vigorous and productive; fruit and foliage hang well and late on the tree. Origin, Bethel Township, Berks Co., Pennsylvania.

Fruit small to medium; oblate, a little inclining to conic, slightly angular; sides sometimes unequal, sometimes slightly oblique. Skin, pale yellowish green, somewhat waxy or oily, shaded, splashed, and striped with light and deep crimson over two-thirds its surface; in exposed specimens quite covered with dark red, and pretty thickly sprinkled with light dots, especially around the calyx, a portion of the larger dots having a brown centre. Stalk short and small, set in a rather large and deep cavity. Calyx closed, or partially open; sequents a little recurved; basin rather large and smooth. Flesh, whitish, tender, juicy, with a mild, peculiar, pleasant, saccharine, somewhat vinous flavor. "Very good." Core rather small. Ripe, December to February.

**RUSSELL'S SEEDLING STRAWBERRY.**—We are indebted to Mr. Clapp, of Auburn, N. Y., for plants of this new Strawberry, which we hope to give a good account of next season.

**TO ADVERTISERS.**—We again call the attention of those who wish to reach the very best class of country custom, to our advertising columns, as a valuable medium for bringing into notice all that appertains to the necessities and luxuries of country life.

The magazine is found upon the Library Tables in nearly all our country seats, in the office of nearly every member of the Nursery Trade, and in the reading rooms of the principal Horticultural Societies and public libraries throughout the country. This is well understood by most of the prominent dealers who have tested its value, and we recommend it to all who wish to increase their business facilities.

**WANTED.**—Two volumes of the *HORTICULTURIST* for 1853, for which we will pay \$3 each in cash on delivery at this office. Subscriptions for 1863 exchanged for volumes for 1858.

BOOKS, CATALOGUES, ETC., RECEIVED.

*Frost & Co.*, Genesee Valley Nurseries, Rochester, N. Y.—Wholesale Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Bulbs, etc., for autumn of 1862.

*B. K. Bliss*, Springfield, Mass.—Autumn Catalogue and Floral Guide, containing a choice collection of Dutch and Cape Flowering Bulbs—Hyacinths, Tulips, Narcissus, Crocus, Firs, Lilies, etc., with full and explicit directions for culture.

*Isaac Pullen*, near Hightstown, Mercer Co., N. J.—Catalogue for the Fall of 1862 and Spring of 1863, of Fruit and Ornamental Trees, Vines, etc.

*Andrew Bridgeman*, 878 Broadway, New York.—Descriptive Catalogue No. 7, Bulbous and Tuberous Roots, with Directions for their Culture and Management.

*J. F. Deliot & Co.*, at D. C. Ryder's Nurseries, Sing Sing, N. Y.—Price List of choice Grape Vines, for 1862-3.

*J. Knox*, Pittsburgh, Pa.—Price List of Small Fruits, etc., for the Fall of 1862.

*Hoopes & Brother*, West Chester, Pa.—Wholesale Catalogue of the Ohung Hill Nurseries, for Autumn of 1862 and Spring of 1863.

*Godey's Lady's Book*. L. A. Godey, Philadelphia, \$3 per annum. With liberal reduction to Clubs.—This old and well managed Magazine keeps on its steady course. No novelty escapes its enterprising publisher, and no pains are spared to make it first rate. One may as well be out of the fashion as without Godey.

*John Saul*, Washington, D. C.—Wholesale catalogue of Fruit, Evergreen, and Ornamental Trees, Shrubs, Roses, &c., for the Autumn of 1862 and Spring of 1863.

*Geo. W. Campbell*, Delaware, Ohio.—Descriptive List of Hardy Native Grape Vines.—Mr. Campbell has some very spicy correspondence at the end of his Catalogue.

*The Country Gentleman*. Luther Tucker and Son, Albany, N. Y.—The only weekly paper devoted mainly to Agricultural matters. It is of permanent value and interest, and reliable authority on all subjects of which it treats. Its corps of contributors is large, and comprises the best talent in the country, thus giving life and novelty in its treatment. It ought to be in every farm house in the country, and if so its effects could not be otherwise than a national gain. There is no one who cultivates the soil so poor that he can afford to be without it.—Quarto, 16 pages, \$2 per year.

## Correspondence.

**EDITORS HORTICULTURIST:**—The model report of J. T. T. in last month's issue is the example for the following, except that I give my *locality*, which J. T. T. ought to have done. My vines are growing in the garden, and receive *fair* treatment; soil limestone.

Anna,	- - -	Badly mildewed.
Brineklé,	- - -	No mildew.
Concord,	- - -	" "
Clara,	- - -	" "
Cassidy,	- - -	Slightly mildewed.
Catawba,	- - -	Mildewed and rotted badly.
Delaware,	- - -	No mildew.
Diana,	- - -	" "
Garrigues,	- - -	Slightly mildewed.
Isabella,	- - -	Badly mildewed.
Louise,	- - -	Slightly mildewed.
Northern Muscadine,	- - -	No mildew.
Hartford Prolific,	- - -	" "
Rebecca,	- - -	Slightly mildewed.
Segar Box,	- - -	Badly "
Secord's White,	- - -	No mildew.
Taylor,	- - -	Slightly mildewed, but dropped its fruit before maturity.

I have a number of vines in a fruit garden in the country; among them a large Isabella and Catawba that I laid down last fall and covered with several inches of soil, which did not mildew or rot. Can you account for this? The exposure of these is easterly, whereas my vines in town have a southern exposure, nearly all of them, but none were laid down.

Now for a brace of questions. What is the proper season to sow grass seed to produce a good sod, and what shall I sow? Would an application of gas lime be beneficial to fruit trees and grape vines? In what quantities should it be applied? On the surface, or forked in? the lime having been exposed for several months. Would an application of gas lime benefit a vegetable garden, if the soil were loosely thrown up this fall, and the lime then spread on it, to be worked in, in the spring?

Yours,

J. W. M.

*Lebanon, Penn., October 6, 1862.*

[We are delighted to have another model report. A vast amount of the most useful information can in this way be comprised within a very brief compass.

We shall be much gratified to have these models greatly multiplied. Our readers need have no fears of sending too many of them. J. T. T. did give his locality, but our printer unfortunately omitted it, and to that extent lessened the value of the report. His locality is Harlem, on the northern end of New York Island. Your report agrees substantially with what we have observed in many parts of New York and New Jersey. Every where the Catawba heads the list of "mildew and rot." The covering of your vines in the country will not sufficiently account for the absence of mildew and rot. The exposure and protection from cold winds would go far to explain it. We should be glad to hear more of the conditions under which these vines were grown. We presume your question about sod relates to the formation of a lawn. In our experience, we have found the early spring to be the best time for sowing the seed, the preparation of the ground having been mainly done in the preceding fall. We seldom sow any thing but Kentucky Blue Grass and White Clover; sometimes we add a little Red Top. If grass seed is sown in the fall, it should be done early, so as to give it a good start. If snow should be plenty, the young grass will go through the winter tolerably well, and make a fair sod. It is well, however, in this case, to sow more seed at the end of winter, while the ground is still cracked from frost, and then roll it. Gas lime will be beneficial to fruit trees and vines, but must be used sparingly, especially if fresh; say about twenty bushels to the acre, harrowed in. Your vegetable garden would be benefited if treated just as proposed. We should be pleased to hear from you often.—Ed.]

MR. EDITOR:—A subscriber would respectfully ask for a list of good pears, that when properly ripened exhibit the most beautiful appearance, say a clear yellow hue; and if added to this they possess a red cheek, so much the better. Pears with beauty and size, though only of secondary flavor, will frequently command attention, when those of better flavor, but of a green or dull color, would be overlooked.

[In response to our Baltimore friend, we append a list of a dozen pears, possessing a good yellow hue, and often a red cheek. They are all good kinds, many of them ranking among the best, and mostly good growers and productive; yet they are hardly the dozen we should select for market purposes. The remark of our correspondent, however, that a handsome pear of secondary quality will generally sell better than one of first quality without an attractive exterior, is generally true; yet there are pears of good size and fair form, but of rather a dull color, that sell well and bring high prices, because of their great excellence. The public taste is becoming yearly so much more appreciative, that we deem it wisest to plant only the best and most productive kinds, without much reference to their color. The list called for is as follows: Bartlett, Tyson, Bergen, Golden Beurré of Bilboa, Beurré Clairgeau, Beurré Superfin, Lawrence, Buffum, Beurré de Montgeron, Onondaga, Osband's Summer, Pratt.—Ed.]

P. S. Several subscribers interested in the culture of Evergreens, would be pleased with a list of about twenty varieties, of the newest and most distinct that are sufficiently hardy for this latitude.

Baltimore, Oct. 8, 1862.

[It would not be easy to make out a list of twenty entirely new and distinct evergreens that are known to be sufficiently hardy to recommend. The following may be relied upon in your locality, some of them, however, not being what may be termed "new :" *Cupressus Lawsoniana*, *Pinus Austriaca*, *P. Benthamiana*, *P. ponderosa*, *P. Jeffreyi*, *P. Moritmia*, *P. Beadsleyi*, *Chamæcyparis thurifera*, *Thujopsis borealis*, *Abies lasiocarpa*, *A. clanbaziensis*, *A. morinda*, *A. Pattonii*, *A. Menziesii*, *A. grandis*, *A. amabilis*, *A. Douglassii*, *Taxus Dovestoniana*, *Cephalotaxus Fortunii*. To this list we will add the Golden Yew, and the following Arbor Vitæ : *Gigantica*, *Lobbii*, *Craigiana*, *Glauca*, *Menziesii*, *Hoveyi*, *Compacta*, *Aurea*.—Ed.]

MR. EDITOR:—I am pleased to understand that we are not all included in the category of swindlers. I freely admit the justice of the remarks in your last number, and for one am ready to put my shoulder to the wheel to get the fraternity out of the mire. I have long been aware of the disgrace brought upon us by the misconduct of some nurserymen, and confess that I feel ashamed of the business when its operations have the names of \* \* \* \* and \* \* \* associated with it. But there is one source of evil which, when understood, will relieve some of us from these severe charges. I mean the tree peddlers. These men buy up old and refuse nursery stock, and hawk it about the country as the products of our fruit cultivators. This stock, though often of good quality, becomes deteriorated by transportation and is often dead and worthless when delivered at the distance of hundreds, or perhaps thousands of miles. Again, peddlers take orders as from a celebrated nursery, and then purchase where they can get their stock the cheapest. This explanation seems to be called for, though I am anxious as any one else to brand the swindler in such plain characters that all may know and avoid him, and to that end, I approve the suggestions to form the protecting association.

NURSERYMAN.

[It is understood, of course, that the class of men referred to are only a small minority, and form the exceptions. There are no more respectable body of men in any business than our nurserymen; but it is none the less desirable that the bad should be known and weeded out.—Ed.]

P. B. MEAD, ESQ.—*Dear Sir:*—I have a number of plants in my little garden, which have given me so much pleasure, and such a profusion of fine flowers all the past summer, that I do not wish to let them die, now that winter is coming on. I have not room in the house, and shall have to protect them in some other way.

A friend suggests that a "cold pit" would answer the purpose, but cannot tell me how such a contrivance is to be made. Having seen in the HORTICULTURIST your very plain answers to questions of your correspondents, I have concluded to ask if you can enlighten me on the above subject. Also, please tell me if such plants as Geraniums, Verbenas, Heliotropes, and Petunias can be safely wintered by such means. I am still very green in all matters pertaining to Horticulture, but hope to improve in that respect by becoming a diligent reader of your magazine.

A NEW SUBSCRIBER.

*New York, Oct. 18, 1862.*

[It is easy to see that you are on "the royal road to learning," which is for all to travel who will, except royalty itself. A cold pit should be located in a place as much as possible sheltered from all northerly winds. It may be of any dimensions desired; let us suppose it to be six wide and twelve long. If you already have sashes, make the dimensions to suit them. It should be dug from three to six feet deep beneath the surface, according to the kind of plants to be wintered; Camellias, Roses, and other tall growing plants requiring more depth than Verbenas and the like. The frames should be twelve inches high in front and fifteen to eighteen at the back. The earth taken from the pit should be used to form an embankment around the frame, first putting next the boards a layer of straw. It requires an illustration as well as a minute description to make the whole thing plain, and in our next you shall have both. There are many others seeking the same kind of knowledge. The pit must be well covered in severe weather, and ventilated whenever it is pleasant. Very little water will be needed.—ED.]

**NATIVE GRAPES.**—P. B. MEAD, Esq.—Opening Downing the other day, I was struck by his description of the Concord.

"Skin rather thick, with more of the native pungency than the Isabella, which it resembles, but does not equal in quality."

Surely, Mr. Downing must have had a poor sample, or it has improved much since then. The quality is partly a matter of taste; the thickness of skin, part of it one of fact. And I beg to say, that of eight kinds I have growing, the Concord this season had the *thinnest of any*.

I can not find the "native pungency" when fully ripe. If I were limited to one vine, I should be puzzled to decide between it and Delaware. With me, it was ripe October 1st, ten days after Delaware, and ten ahead of Diana, Rebecca, Catawba, Anna, Isabella, and Herbemont, which I rate in the order they are placed.

**Delaware.**—The talk of Delaware being a "feeble grower," I think, may as well be given up. With me this season (third one) it has made strong shoots of ten feet of well ripened wood.

The size can be nearly doubled by thinning, if wished, though I do not think its

smallness an objection, if eaten as my little girl taught me they should be, bitten, gnawed, from the bunch; not picked one by one with the fingers.

October 20, 1862.

BROOKLYN.

[We have no doubt that Mr. Downing has accurately described the Concord as he had it before him. When it first came out it was very pungent and musky, and is so still in some places, and under indifferent treatment. Thickness of skin depends a good deal upon culture; much more so than grape growers seem to realize. We have eaten Isabellas with the skin almost as tough as leather. Good culture will render the skins of many grapes tender, while neglect will toughen them. This is not so with all kinds; because nature has put a hide on some which she never intended should be susceptible of such influences. You can put the *ergo* to this, if you like, and conclude that you grow your grapes well. Do it. The "feeble growth" of the Delaware has at last become a very feeble argument; it will soon die out. Good vines, under good treatment, always make a good growth, if you will excuse the alliteration. Your little girl knows how to eat Delawares. A friend recently told us that his family eat them as they do green corn from the cob.—Ed.]

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#### ADDRESS OF PRESIDENT WILDER.

It has been the custom of Mr. Wilder to present an address at each opening of the American Pomological Society. These have always possessed a degree of excellence; but the last is the best of them all, and we make room for it with much pleasure. It is eminently suggestive. We invite the reader's attention particularly to those parts relating to meteorological influences, the thinning of fruit, and the production of seedlings. They all present deep food for thought.

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GENTLEMEN OF THE AMERICAN POMOLOGICAL SOCIETY:—Once more a kind Providence permits us to assemble for consultation, and the friendly interchange of experience in the ennobling and delightful art to which our Society is devoted. Once more I rejoice in the privilege of taking by the hand, so many of the distinguished cultivators of our land, with whom I have enjoyed sweet intercourse for a long period of time, and from whom I have received so many tokens of confidence and regard, during the twelve years of official service in this chair.

In behalf of the Massachusetts Horticultural Society, at whose invitation we are here assembled, I extend to each of you a cordial welcome to this place, to

our hearts and our homes. You come from different, and in some instances, from distant sections of our country, and some from lands better adapted for the cultivation of many kinds of fruit than ours. But true to our own instinct, and to the spirit of our venerable fathers, the founders of New England Pomology, we have brought up specimens of the progress which has been attained by us in this region. The first seeds of our fruits were planted by the colonists of Massachusetts Bay, in the year 1629. Soon after, the Colonial Legislature granted to John Winthrop, then Governor of the Colony, a section of land, on condition that he should plant thereon a vineyard and orchard, which grant received its name from his official position, and has ever since been known as Governor's Island, in the harbor of Boston. About the same time, Governor Endicott, of Salem, planted the first pear trees in that place, one of which is still living and bears his name. Precisely what the intermediate progress may have been we are unable to state. But after a space of a century and a half, we find in the Boston Gazette of March, 1770, the following advertisement of the gardener of the immortal John Hancock, the first signer of that memorable instrument, the Declaration of Independence:—

"To be sold by George Spriggs, Gardener to John Hancock, Esq., a Large Assortment of English Fruit Trees, grafted and inoculated of the best and richest kind of Cherry Trees, Pear Trees, Plum Trees, Peach Trees, Apricots, Nectarines, Quinces, Lime Trees, Apple Trees, grafted and ungrafted, and sundry Mulberry Trees, which will be fit to transplant the next Year, and Medleys."

To these worthy men, and others of more recent date, whose labors inspired our fellow citizens, may be traced the interest which, in the year 1829, originated the Massachusetts Horticultural Society; and, through the agency of this first Association, introduced into this section the results attained by Van Mons, Knight, and other European pomologists. Thus was here laid the foundation, upon which the science we seek to promote has advanced to a rank not inferior to that attained in any other country in the world.

#### DECEASED AND ABSENT MEMBERS.

Since our last biennial session, one of the founders of the Society, who held official positions from the organization of the Association, has been removed by death to another, and, we trust, happier world. I allude to the decease of Hon. Samuel Walker, of Roxbury, Massachusetts, who died at his residence in that city, on the 11th of December, 1860. His death has made a large breach in our pomological circle, and deserves special notice. Mr. Walker was one of the earliest and most valuable members of the Society,—for many years a Vice President,—and, at the time of his death, Chairman of the General Fruit Committee. For nearly thirty years Mr. Walker has been deeply interested in the advancement of horticultural and kindred pursuits, and had held the offices of President and Treasurer of the Massachusetts Horticultural Society. Few men have taken a

deeper interest in the welfare of our institution, or in the objects it seeks to promote. He was ardently devoted to its progress, and until our last session, when declining health prevented his attendance, he was present at all previous meetings, and took a leading part in all our deliberations and transactions. It was upon his suggestion that a special Committee was appointed for the revision and classification of the Society's Catalogue of Fruits, with special reference to their adaptation to the different sections of our land.

As a man, Mr. Walker was quick in perception, ready in debate, refined in taste, courteous in deportment, conscientious in duty, exemplary in life, peaceful and happy in death. But his record is on high, yet in our memories his name shall stand enrolled with Downing, Ernst, French, and other kindred spirits, who have ceased from their labors on earth.

While we drop a tear of grateful remembrance over our departed associates, we would not forget one who still lives.\* His infirmity detains him from this meeting, and calls for our sincere sympathies. He also was among the originators of this institution, and for a term he was its presiding officer. Would that we could hope to enjoy his presence with us once again. His cordial salutations, and his constant interest in our Association and its pursuits, have long endeared him to its members. With him the outward man perishes, but we have reason to know that his love of our favorite art, refined and sanctified by his afflictions, ministers to his daily relief and consolation, and makes his declining life tranquil as the twilight of a summer eve.

#### PROGRESS.

This is the fourteenth year of our Association. Eight years have elapsed since the Society held its session in this city. Most sincerely do I congratulate you upon the attendance at this meeting. But while I gratefully acknowledge this favor, I should be delinquent in duty did I not also allude to the absence of many others dear to us as co-laborers, and eminently useful as members of our institution. Some of the States, heretofore represented in this Association, are now engaged in a sanguinary struggle against the General Government; and as one among the many painful casualties of this most unnatural and fratricidal war, we are now deprived of the presence and co-operation of our Southern members. But we still hope for their return to us in allegiance and fraternal love, and for their reunion with us, leaving no sting in the heart of memory, no stain on the wing of time. Yes, even in this dreadful conflict, we will still cling to the hope that, like ourselves, they will stand firm by the principles of Constitutional Authority, and the American Union.

But we are not here to discuss the present state or future political prospects of our country, dear to us as life is dear, except as they are connected with the great objects of our Association,—objects powerfully contributing to individual happiness and national welfare. Our past success is a matter of sincere congratulation

\* W. D. Brincklé, M. D., of New Jersey.

to all who live upon our soil. The errors and ignorance of former days are fast yielding to the progress of truth and the march of intelligence. We have the most gratifying evidence of the extension of pomological enterprise and knowledge.

Our Society has already accomplished a great good in correcting the nomenclature and classification of fruits, in rejecting numerous worthless varieties from its Catalogue, and now, by a revision of the same, presenting a list of those adapted to the various local districts of our widely extended country. The advantages which will arise from this in the future, improved as it will be from year to year, can scarcely be too highly estimated. The Committee who have charge of this responsible and arduous duty, especially the Chairman, have labored with great diligence, and I have no doubt that their efforts will be highly appreciated by an enlightened and grateful community. In connection with this progress, I respectfully recommend that the Committee on Rejected Fruits be authorized to present, at the next biennial session, a list of such other varieties as, in their opinion, may be dispensed with. I would also suggest the propriety of establishing some permanent Rules of Pomology, especially in reference to the naming of seedling or other new varieties which may from time to time come to notice.

#### REVULSION OF 1860, '61.

The consumption of fruits has become so common as to constitute one of the most important articles of daily food. The loss of a crop is now deemed as a great public calamity ; its abundance as one of the greatest blessings, adding immeasurably to social health and comfort, and to the wealth and commerce of the country.

It becomes, therefore, my duty to record in the Volumes of our Transactions a remarkable fact, which has occurred since our last session, namely, the general failure of the fruit crop for the year 1861. In history, this, as a great national calamity, will be associated with the civil commotion that at the same time convulsed the whole land. What causes, if any, may have produced this remarkable coincidence between the vegetable and the civil kingdoms, we may not be able to discover. Manifestly, "time was out of joint;" both heaven and earth seemed to frown upon our happy land. In regard to our fruits, a kind Providence has brought about a renovation and restoration, which makes the present year as remarkable for excellence and abundance, as the former year was for the injury and loss of the crop. Oh ! that this golden harvest in the natural kingdom may prove the harbinger of a more glorious one of peace and prosperity to our bleeding country.

The causes of the singular phenomena, and the loss of the fruit crop of 1861, have been variously described. Disasters of similar character, though not generally so severe, have occurred in the vegetable world in past time, and in different locations and latitudes. Cycles, of favorable and unfavorable seasons, have checkered the history of Pomology, and made occasional mutation almost as cer-

tain as success. It is well, therefore, to note carefully the facts connected with these great revulsions, and to report them for future guidance and instruction. Especially, in a National Association like our own, should these be recorded for the benefit of generations which are to follow us. Thus shall we treasure up lessons of the past, and gain wisdom for the future.

Vicissitudes attend the cultivation of trees as well as other vegetable products. In regard to the one under consideration, we may mention the fact, that so general was the injury throughout a large part of our country, there was but little fruit in the year 1861. The previous autumn had been marked with an early and very severe frost. On the morning of October 1, 1860, the mercury fell in the vicinity of Boston to twenty four degrees Fahrenheit, causing the apples and other fruits to freeze on the trees, and, in some instances, to burst open. This was the most severe of any on record, so early in the autumn. Again, on the morning of February 8, 1861, the mercury fell in several places around Boston to twenty-five degrees below zero, a degree never before recorded at this season. The previous day had been mild and pleasant. Again, early in the month of March, the fluctuations of the mercury were equally astonishing. The third day was warm and delightful; the thermometer at Dorchester, four miles from this city, stood at seventy-five degrees at two o'clock, p. m., and at eight o'clock at sixty-five degrees; and although no very severe cold succeeded immediately, yet on the morning of the 18th inst., the glass stood at zero. These extremes of temperature were most unusual and unnatural, and not only destroyed the crop of fruit, but injured many trees past recovery, especially peaches, plums, and cherries. These vicissitudes serve to illustrate the comparative vigor, hardiness, and power of endurance in some varieties of the same species, and develop different degrees of susceptibility in others, and thus furnish most useful information to the cultivator.

From this experience we deduct the fact, that some varieties of the pear are even more hardy than the apple, a fact which a little reflection will contain. Thus among the few pear trees which here bore abundantly in 1861, were the Vicar of Winkfield, Louise Bonne de Jersey, Urbaniste, and Belle Lucrative, while the apple, and most other varieties of the pear, failed of a crop. With me, during the last thirty years, the apple has many times failed, while these varieties of the pear have produced fruit annually.

Whether the cause of the revulsion just noted was the frost of October, 1860, destroying as it did the germ of some of the flower buds of trees and shrubs, or whether the sudden alternations of heat and cold in the winter and spring of 1861 produced this result, or whether, as seems more probable, it is to be ascribed to these two causes combined, we cannot with certainty decide. If there were some localities in which this injury was less, it is not unlikely that circumstances which affected one region might not be so active in another. The effect of a bright sun, or of keen, dry piercing winds, immediately succeeding the frost, would intensify

the damage; and, on the contrary, a cloudy sky and humid atmosphere would modify and ameliorate it. But my object is not to discuss at length this subject, but only to record the facts in our National Annals, for the information of physiologists in our own and other lands, whose professional business is to observe these freaks of nature, and to give us their philosophy in the case.

Upon the observation and study of these and similar facts the progress of Pomology eminently depends. The different ability of varieties to resist heat and cold and other meteorological agents, reveals a most wonderful analogy between the vegetable and animal kingdoms; for while certain animals find their natural home in the frigid zones, others in the temperate, and still others in the torrid, there are some that are cosmopolites. So with our fruits; some are suited to one location, some to another, and a very few flourish in a great variety of latitudes.

But as to the means of protecting our fruits from these injuries, we need more knowledge. Experience teaches us, however, that shelter and aspect have a powerful influence, especially on certain varieties.

As to aspect, I am more and more convinced of its importance. The Belgians, in their descriptive Catalogues are accustomed to designate the aspect most favorable to each sort; and when we shall be able to do the same, we shall have attained a result most eminently desirable.

In regard to shelter, here in the North, so as to protect our trees from currents of fierce drying winds, which are as equally injurious to vegetation as a parching heat, no one can doubt its beneficial effect. The influence of shelter and aspect is more perceptible in some varieties than others. This is seen in the fact that certain kinds are healthy and beautiful on fences or in sheltered places, while they are worthless elsewhere.

These considerations all teach us the vast range of our science, the great number of secondary causes that modify results, and consequently the imperative demand for extensive research, for the accumulation of ripe experience, and for great patience and vigilance in the pomologist. How many sad mistakes are developed every year, by leaping from partial observations to general conclusions! Witness the frequent errors of cultivators. How often do they condemn the qualities of certain varieties before they have tested them at mature age. They cut off and graft their trees with other sorts, instead of waiting for nature to do her work in her own proper time.

Witness, again, the complaints against the hardiness of particular kinds, which have arisen from the fact that they had not passed the oscillations incident to youth, and attained a sufficient degree of age and solidification of tissue, in bark and wood. This may be seen in the numerous injuries sustained by young trees of luxuriant growth. They are subjected to the vicissitudes of climate, some years only recovering what they have lost in the preceding in health and vigor. But having overcome the trials of this early period, they rise above these enfeeb-

ling causes, and shoot up into a mature manhood, and thereafter are less liable to the fluctuations of temperature.

But the demand for thorough and patient investigation, is still further exhibited by the wonderful phenomena and mysteries of the vegetable kingdom. For instance, why does the peach, which first puts forth its leaf, delay its florescence until after that of the apricot, which blossoms first, and then puts forth its foliage? Why does the Easter Beurré clothe itself in white robe of bloom before the early varieties of pear, and yet be the very latest to mature its fruit? Why has the fruit of the St. Germain pear, which fifty years ago in this locality was fair and fine, become an outcast, while the wood and foliage appear fair and healthy? Why does the Van Mons Leon le Clerc tree, whose bark is commonly so cracked and cankerous as to eat into the very heart of the wood, frequently produce large and beautiful fruit? Why, in this favored year, should some of the Doyenné Blanc trees produce fair and fine fruit, while on others by their side it is blasted and worthless? Why should the same tree, bearing two sorts, produce on the one branch these large, fair, and ruddy specimens,\* and on the other those which are spotted, cracked and blasted, like that in my hand,† and yet the tree, in all its parts, be equally vigorous and healthy? Why should the Beurré d'Aremberg pear, formerly so good in this region, but for many years inferior in fruit, and even diseased in its wood, the present year, resume its pristine excellence? These are indeed mysteries which we do not at present comprehend; yet far from abating, they should actually increase our ardor in the pursuit of knowledge.

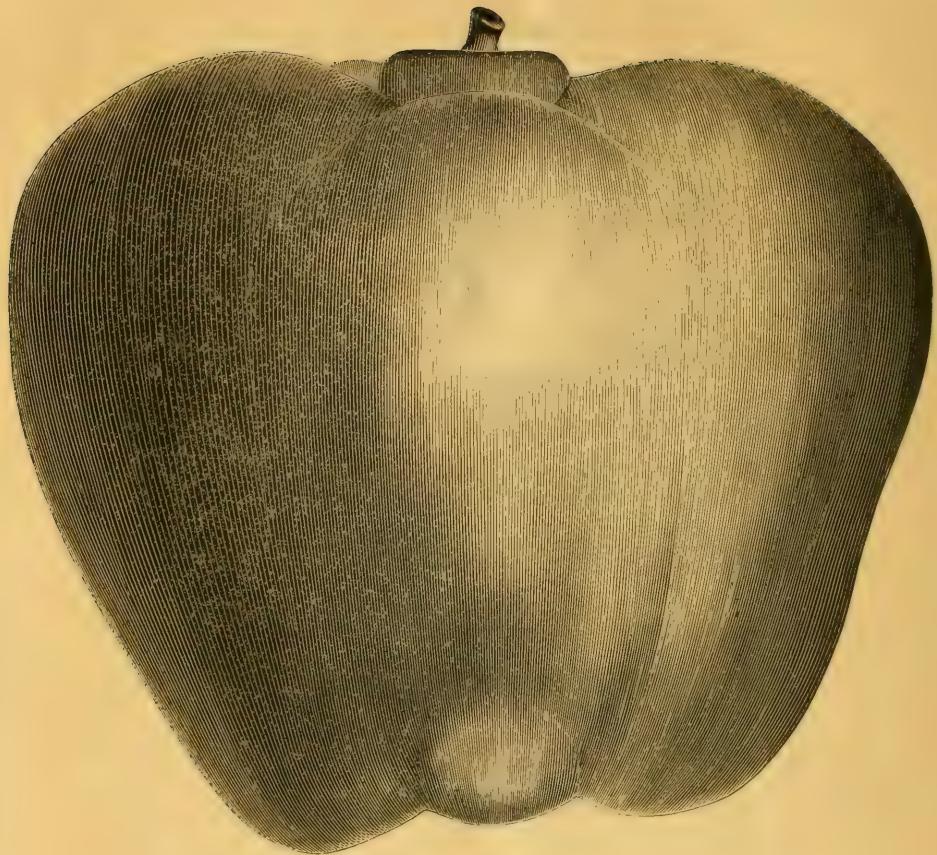
How obvious, then, is it, that he who would become an eminent pomologist, must be a diligent student of nature, and carefully observe the facts which she brings to his observation. With pencil and book at hand, he should note the thousand little things which arrest his attention in his daily labors, and make them subjects of future reflection and study. At first they may appear of trifling consequence, yet in this way they may lead to the most important discoveries, in respect to the hitherto concealed processes of vegetation. If all would unite in this work, and steadily pursue it for a course of years, recording such meteorological and other facts as they are able to make, together with personal observations as to their influence upon vegetation, we might soon learn therefrom the most salutary and practical lessons.

\* Oswego Incomparable.

† Summer Bon Chretien.

[*To be continued.*]





APPLE-SHAPED QUINCE, (CYDONIA.)

*Drawn and Engraved for the Horticulturist.*

THE

# HORTICULTURIST.

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VOL. XVII. . . . . DECEMBER, 1862. . . . . NO. CXCVIII.

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## Hints on Grape Culture.—XXI.

WE have now brought the vine to the beginning of the third year, with the arms formed half their length. We omitted in our last to allude to the alternate vines directed to be grown with trunks three feet high to form an upper course of arms. The manner of forming the arms on these, the reader will no doubt understand, is precisely as directed in our last. The arms on both courses are formed alike. Some explanation may not be out of place here. Let us suppose the posts of the trellis to be full six feet out of the ground, as they should be. It is common to use six wires for a trellis of this height; but five answer the purpose just as well, and a considerable item of expense is saved; indeed, for a double course of arms, such as we are now describing, five wires are even better than six. Place the first or lowest wire fifteen inches from the ground, and the others fourteen inches and a quarter apart. These distances will cover a trellis six feet high. If the posts are higher, the distances may be increased a little.

The upper course of arms is to be formed on the *third* wire. The trellis will thus be equally divided between the upper and lower courses. We have already stated that the arms on the upper course are formed just like those on the lower course; and the treatment in other respects will be precisely alike, except otherwise specially noted. It may, and probably will happen, that all the arms on the upper course can not be formed as soon as those on the lower course. However this should prove to be in individual cases, we repeat here that no arms should be formed until good stout canes have been obtained.

Having carried the young vine along to the beginning of the third year, with the arms half formed, let us pursue *seriatim* the treatment of the season. The vines having been pruned and placed in the position indicated in last month's

issue, the next thing in order is plowing. This must be done as previously directed, not, however, going so deep, except in the middle of the rows. Every precaution must be taken to injure the roots as little as possible; the less they are disturbed the stronger the vines will grow, and stout wood is now our principal object. The ground not reached by the plow should be forked up. If strawberries are grown between the rows, they should be forked over. The whole surface of the vineyard, in short, must be broken up. No runners should be allowed to form on the strawberries. If root crops are put in, they should only occupy the middle of the row, and be highly cultivated. The horse hoe must be used from time to time, to kill weeds and keep the soil open and mellow. It can hardly be used too often. If the ground in the first instance was not thoroughly prepared, it may have, at the time of plowing, a top dressing of old manure, composted with muck and ashes; the Delaware, indeed, may be manured liberally every year with advantage, for it requires higher treatment than any other of our native vines. At the end of the third year we shall give some special directions for manuring the vineyard.

Let us next look to the vine. The arms are to remain bent until the new shoots have grown three inches; they must then be tied to the bottom wire. The shoots must all be trained upright except the two end ones, near *d* and *e*, (in preceding figure,) which are to form the continuation of the arms; they must be grown at an acute angle, or somewhat horizontal, tying them from time to time as they increase in growth. About the middle of June, trim off neatly and closely the piece of dead wood at the end of the arm. It should be cut close to the new shoot, and at an angle of about forty-five degrees. It will then soon heal over. About the first of September, bend these arm shoots still nearer to the wire; say within three or four inches. Then pinch out the end. The laterals must be pinched in as before directed. This will constitute the treatment of these two shoots for the season. The other shoots must be trained upright, just as directed for growing a cane during the first year, pinching out the laterals as before stated. About the middle of August pinch out the ends. This will help to ripen and increase the size of the wood and fruit. One, or it may be, two of the end buds will break; cut off all but the lowest, and pinch this in during the first week of September, and then let them all grow undisturbed.

By referring to the last figure, there will be seen beneath the letters *i* and *k* (below the wire) two buds which have not been directed to be rubbed out. These are to be grown unchecked during the season, except that the laterals are to be pinched in as usual. They may be tied close together as they grow. The reasons for allowing these two shoots to grow unchecked will be fully explained hereafter, though they may be found briefly indicated in an article we published about a dozen years ago. We purpose, however, to elaborate this point a little by-and-by.

The reader has doubtless been waiting anxiously to hear something about the

fruit. Each shoot will probably set two bunches of fruit; some of them more; but one bunch each will be as many as the vine should bear this season, or ten bunches in all, except in the case of some vine that has shown great vigor, when a few additional bunches will serve to check its exuberance. An experienced eye will readily judge of the ability of a vine to bear a given quantity of fruit; but we are writing mainly for the inexperienced, and prefer to keep them on the safe side. As we have directed no arms to be formed except of stout wood, it will be perfectly safe to leave at least one bunch to each shoot. With this quantity the reader ought to be satisfied for the present.

Having brought the vines to the end of the growing season, we leave them till our next.

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## ORCHARD CULTURE.

BY WILLIAM BACON, RICHMOND, MASS.

A FEW years since, a person, for the sake of employment, took an agency from a reliable nursery for the sale of their trees. He was wholly inexperienced in tree culture; still, on visiting farmers and others for the sale of his wares, he informed them, with as much assurance as though relating a fact based on his personal experience, that their previous failures in orchard planting were the result of mistaken culture. This was probably to some extent correct; but he laid down a course of culture for them to pursue, which, if carried out, would, in a few years, give them large trees in full bearing. His plan was this: for several successive years after the trees were set, use the cultivator and grow buckwheat. Perhaps this was a judicious system to adopt in some cases. We do not say but it may have been; but, so far as our observation extended, it did not amount to much, and soon went out of fashion.

Orchard culture, like that of other crops, must be brought to meet circumstances. Different soils, locations, and climates call for varying processes, so that few general rules can be adopted, to carry out with assurances of success. Of these, we consider a preparation of soil before transplanting, as of the greatest importance. Some soils are naturally deep and open. Where this is not the case, they should be made so before the tree is placed in them; for no tree will flourish for any length of time in a thin or compact soil. It is labor lost to place them there, either in expectation that they will flourish in the ground as it is, or in the hope that after culture will remedy the deficiencies. The last can not be done, for every inch of soil needs a thorough pulverization, which can not be effected under the roots when they have once been put in place.

In planting trees of any kind, especially fruit trees, we would say, then, prepare the land before hand; that is, if the soil is not naturally deep, make it so

by deep tillage; if not fine, reduce it, no matter how fine. If not so dry that water will not settle and stand under the trees, drain it; if it requires manure, apply it according to the necessity of the case in previous tillage; in short, bring the land into that high state of cultivation, which is necessary to the successful growth of any other crop. Then trees may be put into it, if they are healthy trees, well taken up and well replanted, with a fair prospect of success.

As it respects their after culture, the good sense of the cultivator ought to be sufficient to give him direction. If he wishes a rapid growth, it will be necessary to feed high, and perhaps to continue cultivation with plowed crops. South and West, where the winters are mild, or in a portion of the country where there can scarcely be said to be any winter, this course may answer well, but in New England, and, indeed, all regions where the winters are severe, we question whether keeping the ground in plowed crops or high feeding is best. It is a well-established fact, we believe, that plowed lands freeze deeper and are more subject to repeated freezings and thawings, than those in grass. Consequently, the roots of the trees are more exposed to the vicissitudes these changes bring. Even in plowed grounds, however, this objection may be removed by littering to secure the tree from the extremes of these changes; still, in our Northern climate, if the ground is well prepared, we can see more advantages than objections in foregoing the use of the plow after the trees are set; and if the ground is stocked, we have found no particular objection. Truly, the trees may not grow so fast under such circumstances. Rapid growth in a cold climate is not desirable; it is the harbinger of early decay; for who is not aware that the texture of quick growing trees is much more loose and spongy, open to the action of frosts, than those of slower and more compact growth? Where trees are highly fed, in such a climate, it is no unusual thing for the bark to crack off by freezing and thawing, and even for the trees to split.

Where trees are overfed, the branches too often grow so late in autumn that it is impossible for the wood to ripen, and winter cuts it down as though it were an herbaceous plant. Not so with the trees that nature plants and that grow under her maturing and protecting care. She gives them a needful supply of food to answer the purposes of a healthful growth, and causes them to ripen their wood in full preparation for frosts and storms. Her teachings are worthy of the careful consideration of those who would be successful like her.

Again, nature, when she plants trees, does not disturb their roots with plow or spade. In her forests; she keeps the ground around them in a light, porous condition by the top dressing she gives them. In autumn the leaves of forest trees fall from their branches to cover and protect the roots from the inclement season that awaits them, and in the coming spring these leaves commence to decay to keep the earth light beneath them, so that the tender roots may push around to gather food and give stability to the tree. They also form a fine, healthy manure, which of itself furnishes the aliment of future tree growth.

How far it is expedient to follow nature, others must decide to suit themselves. We have imitated her in furnishing the elements of growth to a few fruit trees, and are so well pleased with the result, that for our own practice, we consider it the best. In other localities, however, it may not be so. Cultivators must decide this matter for themselves. An experiment with a few trees can do no harm, and it will settle the question.

So, then, we have come to the conclusion that the true way for us to raise healthy and long-lived fruit trees is first to prepare the land thoroughly by draining if necessary, and then by a deep and very thorough tillage before the trees are set; then obtain good trees, and see that they are well set; and after the trees are once located in this well-prepared soil, we would keep it in its fine, light condition by as frequent top dressings as were necessary to secure the result. We have seen land so dressed that was kept as light as when first released from the labors of the plow. Who has not seen fruit trees in locations where the soil was top dressed by the frequent deposits brought on by rains, and admired their thriftiness, though neither plow nor spade had disturbed the earth around them since they were set? Such trees are vigorous enough in growth, and abundant bearers. The largest and one of the oldest pear trees we ever saw, stands in a place where it takes the wash of the highway, and bears heavily.

For this top dressing, other manures than those usually employed for plowed crops may safely be used, thereby making the thing more economical to the farm than when corn or other crops are to be raised. Composts are better than yard or stable manures for fruit trees, and there is no decaying substance on the farm that can not safely be employed in the compost heap. Leaves and muck may form the basis of the heap, and all the odds and ends of the premises may be thrown in to hasten their decay and produce their immediate value. Ashes, whether leached or not, slops, brine, every thing almost thrown upon the heap, prevents waste and makes the compound more valuable.

[There is always something fresh in the views of Mr. Bacon, looking to a practical application. There ought to be a general concurrence of opinion in regard to the importance of a thorough preparation of the soil previous to planting an orchard. It can not be as well done after the trees are set, and is very apt to be entirely omitted in consequence of the additional trouble. The cultivation of orchards has occupied a good deal of attention lately. We have no doubt at all as to the utility of cultivating young orchards; we think it ought always to be done. That it is not always satisfactory (though it is very generally) is owing to the fact that the roots of the young trees are needlessly cut to pieces by the plow. This need not, and should not be done. We are also of opinion that old orchards are benefited by cultivation, especially in cases where the original preparation of the soil was not thoroughly done. There can be little doubt, also, that cultivation is the best, cheapest, and quickest mode of renovating an old and worn-out

orchard. A thoroughly prepared orchard, after it has become well established, may be put down to grass, and kept in good condition by proper top dressings. It is a great mistake to grow corn in an orchard; root crops may be grown judiciously. There can be no doubt that grass protects the roots of trees; but it may well be doubted whether the roots of the apple and other hardy trees require such protection. The damage done in winter is not to the roots, but to the tops. Where the wood is not ripened, top and bottom will suffer more or less. These are merely hints which our readers may take up and follow out. The remarks of Mr. Bacon in regard to high feeding deserve consideration; but it is a rare thing to see this in an orchard. Where the growth is gross the wood generally ripens imperfectly, and is apt to be winter killed; it is, moreover, liable to other casualties. Our readers all know how tender we are of the roots of plants; still we must not make too strict an application of the fact that Nature uses neither spade nor plow; for in the field of Nature, what is true of trees in this respect, is also true of all plants; yet we know we can not get along without these useful implements. Nature teaches us many useful lessons, which we can not disregard without a penalty; yet it has been wisely ordained that man shall labor to perfect the fruits which Nature has so bountifully provided. Mr. Bacon understands all this as well as we do. We have dwelt on the subject for a moment for the benefit of those indolent souls who wrest the argument of Nature to excuse their wretched neglect of all the means providentially placed within their reach. If these men will only prepare their orchards, plant their trees, and top dress as Mr. Bacon directs, we will cheerfully consent that their orchards shall remain in grass for the next ten years.—ED.]

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#### INTERIOR VIEWS, No. 5.—EXOTIC GRAPERIES.

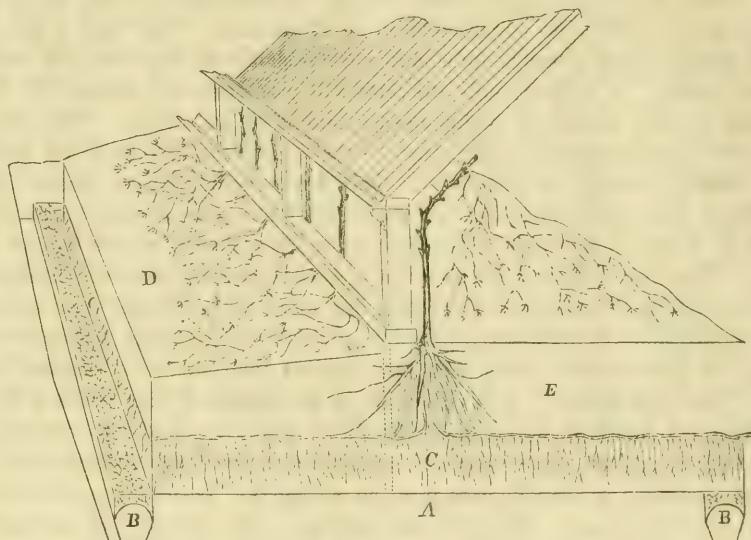
BY FOX MEADOW.

(Continued from page 510.)

Now examine and study scientifically, if you please, the difference between a border composed of the materials advised, and the materials by which a border is made *impervious* to air and water. We all know, or ought to know, that every drop of water contains a very surprising amount of electrical fluid, and this fluid seems to be the life, perhaps, of every thing; at any rate, it is taken up by the roots of plants into their systems, and is one of God's means in Nature of perpetuating creation. Plants can not live without this element; and as an evidence of its vast importance to all vegetable life, we see its most wonderful invigorating effects through the thunder storm; for, during such periods, plants grow with more than double their ordinary rapidity. The influence this electrical element exerts on the roots of the vine is very great, and in more respects than one. Our business is to study this influence, and in so doing we shall find that it is of the

utmost importance that each spongiole the vine may possess be supplied properly, constantly, and proportionally, (as far as our knowledge can possibly direct us in the latter,) with this element in question. This leads our thoughts to the very base of the question, which is the base of the vine border. Perhaps there is as much wrong in the formation of this "base" as there is in the materials of which the borders are composed. Elements by which man lives, and adds to his comforts and enjoyments through life, are oftentimes the very means by which he loses his life. This electrical fluid, so essential through every particle of the soil, to sustain health and fruitfulness in the vine, when massed in the hollow cavities of the border, is as much injury to the vine, by its action on the roots, as the element of water would be to a man confined in it overhead. The base to all vine borders should be dry; that is, no standing water should be at or near the base of any vine border. In ordinary soils, the rains will pass down and through it. Any such base is good enough for a vine border, and is all we ask for. The sizes of the border being determined, a drain can be laid to *surround* the base, and twelve inches *below* it, having a proper outlet. This drain should have connection with the external atmosphere, and this is *all* the draining necessary for any vine border. (See cut.) It will be now seen that our compost goes directly on the base of the border. There is no one foot nor two feet of broken stones, oyster shells, nor any other material, for it is of more injury than use, more money wasted than common sense applied, and results in the production of more diseases than has ever been cured by all the scientific quacks who have applied their many and various nostrums. Thorough drainage, as it is termed, at the bottom of vine borders, which consists of, (as many of our readers know full well,) from one to two feet of broken stones, or some other material intended to answer the same purpose, if arranged according to the "highest possible authority," have no connection with the external atmosphere. These two atmospheres—the internal and external—are at two distinct temperatures, one colder, the other warmer. Now in the summer time, when the external atmosphere is hot and dry, the internal atmosphere which surrounds this drainage in question, is much colder, consequently a condensation takes place, and water is produced among these stones and on the bottom. Now the moment the border becomes dry, or the moment a sufficiency of moisture is not presented to the absorbing roots, the latter become attracted through the law of affinity, to where moisture is; and where is this under the circumstances? Why, at the bottom of your border! in your *air chamber*! Here you will find the roots dangling among the stones, like the roots of air plants in a moist orchidaceous house! The same cause which makes grass grow near a drain, and be green when all that which surrounds it is dry and burnt up during hot weather, is the same law which causes the outside of the ice-pitcher to be dripping with wet in our thirsty days of July and August; and, hence, the very element necessary to be in every particle of soil to ensure health, becomes, through its injudicious application, the sole cause of disease and death! A glimpse at our cut will give

the reader a truthful representation of the vine's roots in compost with such a so-called drainage. The nature of these papers will not admit of our speaking as fully on many points as we could desire; and as it is, we have encroached too much on the valuable space of the Journal. The month of November being now advanced, is a good time to remedy the evils in borders; and to all who are dissatisfied with the results of their vine-growing, should this arise from disease in the vines, imperfect setting or fecundation, shank, mildew, cracking of the berries, poorness of color, imperfectly ripened wood, half crops, with a host of other



things too numerous to mention, we say, take up the vines. Start at the outside of the border, and throw out a trench to the bottom of it, about four feet wide, and carefully lift all the roots that can be found; and if any of our readers should happen to find any *in* the border, and they are not on the bottom or out of the border in some foreign country, we hope they will be kind enough to tell us through this Journal.

In taking up the roots, see that they do not get dry. Sprinkle them constantly with water, and cover them, as far as practicable, with some material or other during the operation. If the borders have been well dosed with manure, and all the little other "tiny tid bits," add plenty of good sharp sand, and don't be afraid of it. See to its being thoroughly mixed. This done, the vines can be replanted, laying the roots on the surface of the ground, and placing on them about four inches of the soil. In replanting, make as many *angles* in the roots as is possible, or that your patience will admit of, for by so doing you will increase the number of new young roots. Peg them down on the even surface of the border, and

then cover them up as soon as possible, and the work is done. Done, did we say? Oh, no! the work is not done! What remains? is the question. The *feeding of the vine*. Now lay on the top of this border (if it is of our compost,) just as much rotten dung as you please, all the special fertilizers you please—bone, lime, and everything else you think proper. We do not care how many tons of it you use, but put all on the *top* of the border. This is Nature's way of making borders. All her stimulants are placed on the *top* of the ground. Trace all through the vegetable world, and where do you find *air chambers* under trees, and *rotting matter* among roots? Let us study Nature's never-deviating laws, and then we shall find

“The age that is passing to rise and proclaim  
To the age that is coming ‘laws’ always the same.”

[The printer in making this up prevents us from making a few remarks. They will be in place hereafter.—ED.]

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## THE LIBRARY.—II.

BY L. S. B., BROOKDALE FARM, MAINE.

A SMALL library requires the same care as a large one. By this I mean that the small collection of books forming the private library of any rural resident, should be kept in as nice order, and the classification and arrangement of the volumes as much in accordance with correct rules, as a larger private, or even a public library. Detached volumes from a set should never be found in a straggling position; works upon general history should not occupy a place by the side of works upon stock breeding; and every volume, or set of works, should have its assigned place upon the shelves, so that, if necessary, they could be procured without a light. There should be the same harmony and arrangement to the different classes of works, or those on different subjects, in a small case as in larger ones, and the former, like a small building, can have the same lines of beauty, and the same attractiveness as those which belong to a more spacious and expensive edifice. It should also be remembered, that if the books are in a room especially devoted to them, light and air must be afforded them in abundance; but in rooms occupied as a library and sitting-room together, this precaution is not so necessary. It has been found that books kept in dark and unventilated apartments, are very liable to mould, and in a few years become very much soiled. Light and air are as essential to books as to plants, and the library and green-house require very much the same treatment. Books also, like tools, are kept in better condition if in daily use.

I must turn back a leaf here, and say another word about cases. In some

private libraries, and in nearly all public ones where books are used considerably, the shelves of the cases are covered with leather, to prevent the wearing of the volumes. This is a good plan; and I would suggest, that where it is to be followed in a private library, the leather used should be Russia calf, such as is employed in binding those heavy works that require a durable outside. It can be procured of any dealer in bookbinder's stock, at prices varying from two to five dollars per side, of the size of a large calf skin. Besides preventing the wearing of the volumes, it is also a sure preventive of moths or worms, on account of its peculiar smell, which is offensive to the moths, but causes a room to have quite an agreeable odor. If library shelves are not covered with this material, half a dozen volumes bound in the leather and placed through the library, would be almost as effectual, and better, I am told by bookbinders, than shelves made of the wood of White Cedar, before recommended.

Now that I have gone back to *cases*, perhaps I might as well say a few words more in regard to the interior fixtures and furniture of the library room. Downing, in his "Country Houses," (p. 404,) says: "The library should be quiet and comparatively grave in color; some shade of fawn or neutral tint for the walls, the furniture of dark oak, or wood like the book cases, and the carpet selected so as to accord with the severe and quiet tone of the walls and furniture. Leather or morocco makes the best and most appropriate covers for the seats of chairs and other furniture for a library." The forms and styles of furniture for the library are, as we said in our previous article, of every variety of finish, and can be obtained at greater or less cost, according to the fancy or means of the purchaser. Library tables, to have a distinctive character corresponding with the design of the room, should be heavy and massive, inlaid at the top with morocco or cloth, for the purpose of affording a smooth surface for writing. Tables provided with drawers are more expensive, but are quite desirable. A secretary, such as is figured in Downing's "Country Houses," would not only be a very useful piece of library furniture, but likewise ornamental; and besides making a writing-table with all the necessary drawers and fixtures, the shelves above could be appropriated to choice volumes often read, or works more frequently referred to in writing. Library chairs, to correspond with the other furniture, should be heavy and solid, leather covered, well stuffed, and with an easy curve to the back; in describing the library furniture for Gothic villas, Downing speaks of separate cases to contain each department in the library, which may extend all around the room, or as many as are required to contain the collection. He says: "The spaces below afford excellent closets for pamphlets and manuscripts, and the busts of distinguished men in different departments of letters may be so placed along the top, as to designate to what particular class of books the case directly below is allotted." The plan is similar to that spoken of in our previous article, although no mention was made of the very elegant and appropriate method of designating the different classes or divisions of works

in the library by placing above each case a bust or portrait of a representative man in that particular department. It is certainly a very chaste and ornamental design.

Arthur Young, in his "Survey of Lincolnshire," as quoted by Loudon, (Enc. of Ag., p. 1155, London ed., 1835,) in speaking of the management of the estate of Sir Joseph Banks, gives an account of the library rooms in his mansion, which possess many advantages and conveniences over rooms of a similar character that have been described in our own country. In one small room there were 156 drawers, containing papers and documents of every kind, relating to the affairs of the estate. If an inquiry was made concerning a man, an inclosure, a separate farm, drainage, or any operation, in a moment a mass of information was on hand, as a list of the contents of each drawer was kept in the desk, so that every article could be had when wanted. He also describes a small wooden case, which, when opened, formed a little library for agricultural hand books, and when closed could be carried in a carriage to any part of the estate. It also had apartments for stationery, small blank books, etc., and formed a convenient writing-desk. If our country houses had a room appropriated for the purpose of a library, and also as a sort of cabinet for specimens in natural history, such as could be collected upon any farm, what an interesting feature it would be in the lives of our country residents. How much happier, more contented, and more useful would be the lives of those living with such influences and associations around them, than if no attention were bestowed upon books, study, and the cultivation of the mind and heart.

I had hoped, in this number, to reach that part of my subject treating of books themselves, their arrangement and classification; but it must be deferred to my next article.

[There are comparatively few persons now who are not willing to concede the value that justly attaches to a collection of good books. Farmers and gardeners, as a general thing, have failed to realize the importance of such books, not only as aids to their business in life, but as instrumentalities in developing and educating the minds of their children, and fitting them for usefulness in the world. The subject is one which has often occupied our thoughts; but our correspondent is abundantly able to handle it, and for the present we leave it to him. We wish to say, however, in regard to the furniture and appointments of the library, that while they should be subdued in tone, they should not be dark, heavy, and somber, an error often committed; above all, avoid placing the library room in some dark corner of the house, where the sun never shines. Where it could be done, we would place it so as to receive the early morning sun, and so catch the inspiration of the day from its rising rays.—ED.]

## WARDIAN CASES JUST THE THINGS.

BY AN ENTHUSIAST.

MR. EDITOR,—I am so delighted with a new case, combining the Wardian and Waltonian plans, that I send you the result. The frame is about five feet long, by thirty-two inches wide; as wide as will enter a common door. The wood-work, of black walnut, is six inches deep, and lined with zinc up to the sash, which fits tightly down to the frame. The glass is 30x32, two plates on a side, and one on each end. The roof slants up from all sides at an angle of about  $145^{\circ}$ , and meets a smaller plate which covers the center. The sash is strong, and of black walnut. A dais one third the width of the case runs lengthwise through the centre as high as the wood work; that is, six inches. This also is covered with zinc. The bottom of the case under this dais has a hole six inches in diameter, over which a small tin boiler fits into a rim. The rim is to prevent any leakage upon the floor. It is soldered on around the hole. The boiler holds about a gallon, and is connected by a tube with the outside. All this is concealed by the dais, except a small hole, to which I attach a bent tunnel when necessary to connect with the tube, and thus fill the boiler. Remove the funnel, and you only observe a small orifice. The whole may then be warmed by a lamp set under the boiler. This will not be necessary, except on very cold nights or very damp days. The case is raised on turned legs as high as the window seat, so as to obtain full light. Hooks are attached to the roof frame, on which small shelves or hanging baskets may be suspended. The bottom is filled with saw-dust on each side the dais, into which the pots are plunged.

The case stands so that each end is exposed to a south window. A west window also looks directly at one end. Those three windows give an abundance of light and sun. The sun will raise the temperature quickly to  $80^{\circ}$ . Without artificial heat, the thermometer suspended within seldom sinks below  $50^{\circ}$ , except damp days. Each end is a door, by which the heat and moisture may be modified. I will tell you what plants the case contains, and then the effect on each. A Calathea zebrina; several Fuchsias, among which Madame Cornelison, Sir Colin Campbell, Rose of Castile, Schiller, Lord Echo, Governor General, do best; Caladium tricolor; Begonias Splendida Argenta, Roi Leopold, Madame Alward, Madame Stuart Low, Queen of England, Manicata, Humboldtii, Coy's Victoria, Splendida, Ricinifolia, etc.; Cissus discolor; Diesenbachia pieta; Farfugium grande; Heliotropes; Camellias in variety; Salvia splendens; winter flowering Carnations, Cinerarias, Stocks, Pelargoniums, etc.

The Begonias are plunged where the sun will not often touch them; so with other plants that love the shade. At the ends, where I can easily air them, and they will receive more light, are placed the Pelargoniums, Camellias, Fuchsias. The case affords a rare chance for propagating by cuttings, for germinating tropi-

cal seeds, etc. The Fuchsias needed acclimating ; but all the other plants took to the case readily. The Fuchsias are now in fine order. Madame C. is in gorgeous bloom. Cuttings apt to damp off, placed by one of the doors, and not often supplied with water, work well. I apply water mostly to the plunging medium, the sawdust. The sun lifts it, and after lining the glass with moisture, feeds the leaves gently, and distributes the water by a natural plan. However, I attend to it that water lovers shall have their full feast ; and others tintured with hydrophobia can set near the door, and not receive even the average supply. Verbenas will not thrive in such a case with even extra care. The India Rubber Plant adds a rich green to the collection, and by cutting back can be kept within bounds. Cannas also thrive well. The capacity of such a case is beyond expectations ; but the plants must be arranged so that the leaves shall not touch each other more than can be avoided. A skillful arrangement will enable one to stow in a very numerous collection.

The beauty of the case can not be exaggerated. Its refreshing colors in winter are delightful. You can thus raise Camellias and other plants, and bloom them, while in a common sitting room they lose their buds. The case is a little world by itself. Up goes the moisture to meet the sun ; but, stopped by the glass, comes down in a miniature rain storm. Dust, that chokes the delicate creatures in an open room, is here debarred. If kept wholly closed, no water need be put in the case oftener than once a month ; but this is not advisable. The case had better be aired ; then a little *too* much moisture may work irreparable mischief. I prefer to let the case at times lose quite a large portion of its water, and then refresh ; but *never* have a draft running through. All decaying leaves should be at once removed, as they are both poisonous and unclean. One rotting Begonia leaf may spread contagion to several.

The cost of the case was about thirty-five dollars. One with smaller panes of glass, having always the length of the case about double the width, could be built for a very much less sum, and be more convenient in most rooms. Mine is set on heavy castors, but can not be readily moved for fear of strain on the glass ; a smaller case would obviate this difficulty where it is desired to move the case. It would detract from the beauty, but add to the safety, to have each pane of glass half the width, and more sash. Of course the old plan of planting permanently in these cases is not advisable. Better by far for taste and convenience set in pots. Begonia leaves root readily set on a swinging shelf. Winter flowering bulbs do finely. Ferns fairly revel in the moist purity.

The beauty and freshness of foliage are not the least of the recommendations, but above all things the neatness attendant on confining our room plants to an enclosure is most desirable. The care of their culture is much lessened. No one who loves plants, and realizes their refining power in a family, should be without such a case. It would furnish a minister with illustrations from Nature, and almost make a poet of any one. There is no other way of visiting the tropics, and yet

sit still in one's study. Brazil, Mexico, the Cape, and India here mingle their fragrance and combine their loveliness. It lifts one's thoughts as well as his heart to the Deviser and Source of Beauty as well as Truth.

"For the dear God who made us,  
He made and loveth all."

[Your style would have discovered your *status*, if you had not told us ; for no one but a delighted enthusiast could write in such a happy vein. We wish there were more like you who would put their pens to paper, and lay open to others the sources of their enjoyment. The leaven of selfishness is so thoroughly permeating, that many men, even after they have thrown off the "old man" and put on the "new," still remain unaccountably selfish even in their pleasures. We love a man who has a soul big enough to share his joys with his fellow-man. We believe, however, that there is something in a true love of flowers that neutralizes the selfishness of man's nature ; and hence "An Enthusiast," and others like him, when they discover some new source of pleasure, straightway invite their neighbors to share it with them, while it is still fresh. In this spirit "An Enthusiast" has written of his Waltonian case, and we thank him for it in behalf of our readers. They can not fail to be benefited by it. Those who grow parlor plants, and have not a Waltonian case, should not fail to get one, however small, if it be only to grow a few ferns in. They will find it a source of pleasure as varied as it is inexhaustible. The information given by "An Enthusiast" will enable them to construct a very good one, if they can not purchase one ready made, which is not easy, except in a few of our large cities. We will state here, for the information of our readers, and in answer to inquiries, that Mr. C. B. Miller, of New York, keeps on hand a variety of styles and sizes of the Waltonian case. There are some features about the one described above which we like very much, and we can imagine how very beautiful it must look filled with such a choice assortment of plants. The advantages of the Waltonian case are well described ; the beautiful effect of the plants grown in it can not well be exaggerated. Do by all means let us hear from you again soon.—ED.]

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#### REJUVENATING OLD HOUSES.—No. V.

BY MYRON B. BENTON.

If the kitchen garden be then removed, a little additional space is reclaimed near the house, where it is wanted, for a yard or lawn ; a spot of perhaps a quarter of an acre. This has been, so long as remaining a garden, kept free from trees, for the benefit of the vegetables. Let it still remain so now, for the benefit of those more important living things, the farmer's family.

Around how few houses in the country do we see a smooth, unencumbered grass-plot. It is fortunate if one can discover, outside the yard, in any of the farmer's fields, that

“Sunny spot of greenery,”

whose cool, peaceful face the eye so longs to repose upon. With so many wide fields, it would be ridiculous for any one to deprive himself of this luxury close to his dwelling. But it is not, probably, as a general thing, a spirit of economy which does this. It comes more from a lack of skill in the proper distribution of the various departments; in precisely the same way that the inconvenient arrangements of the interior of the house have been made. The house and grounds were not intentionally so arranged, but, like Topsy, “they growed.” In fact, a thousand and one things were wanted “handy by,” and only by extraordinary good management could this result have been avoided. But a lawn, of almost any size desired, would be no loss in point of economy; for it would yield as much grass, and more, than if in the field. Thus it would give a double crop, as did that of which our greatest poet sings,

“One harvest from thy field  
Homeward brought the oxen strong;  
A second crop thine acres yield,  
Which I gather in a song.”

This “second crop” we can gather in a perpetual song, which will sing itself in our hearts, though we may not translate it into words.

The largest portion of this piece of reserved ground should be kept a smooth, unbroken turf; a broad place without a tree, shrub, or flower-bed. This should lie in full view before those rooms which are occupied every day, whether kitchen or parlor. A few trees should be near the house for a partial shade, and some shrubbery; but all thick, close plantations of the kind, should be at some distance. A dense, tangled wood is fine in its place; only it should not be near the house. The lawn should be inclosed by a belt of trees and shrubbery of various kinds, but not in a stiff, regular form. The top line should conform to Hogarth’s “line of beauty,” now high, and now so low that perhaps a single furtive glance can be obtained within by the passer-by in the street. It should be a slight peep only—no more; for seclusion is one of the chief objects to be desired in such places. If open to the broad view of the highway, nine-tenths of its charm would be gone. For this reason the screen, inclosing, should be mostly dense; but it should shade off into the lawn gradually, by shrubs and trees standing less closely together, and occasionally one standing by itself, with room to unfold all its fair proportions without restraint.

A few flower-beds may be made on the border; and the invariable rule should be, in this matter, to lay out only such a number as can be carefully attended to. A neglected flower-garden is one of the most unsightly of objects.

As a general rule, where but little can be expended upon ornamental or pleasure grounds, nearly all fanciful adornments should be eschewed; as rustic-work, vases, etc. As few walks and paths should be cut out of the turf as need be. The clean grass will serve all purposes for walking in most cases, if it is kept smoothly mown all the season. The farmer can not generally shave his lawn as often as he does his beard, as is the case in very extensive parks, but he ought to mow it a number of times in the course of the season.

As has been said, the out-buildings should not be concealed. The wagon-shed should be nearest to the house, and the barns a little further off. The hog-pens should be farthest removed of all. Having them close to the house for the convenience of feeding, is nothing short of perpetrating a nuisance. With regard to the architecture of these buildings, there is a bad taste becoming more and more prevalent. The attempt is to make them appear *fine*. There is too much ornamental work and hard finish, and they are painted in too delicate hues. Such buildings should have no fine, elaborate work about them. Their architecture should be noticeable rather for a substantial, durable, and even rough construction. If painted, they should be in the most quiet, unpretending, and least delicate shades. Think of a pink barn, with all the lower story mottled and streaked with manure-stains! In form, their picturesqueness should consist rather in bold outlines, than any fine work in small proportions; with overhanging roof, from beneath which the rafters project into sight.

In the desultory suggestions, which this article concludes, it is not claimed that any thing complete has been attained. The subject is very wide in the thoughts brought to mind, and offers much room for study. If any hints have been given which shall be of use to any one in renovating an old place, I shall be well satisfied.

[We have been much interested in Mr. Benton's suggestions. The subject is by no means exhausted, and we hope he will continue it in his moments of leisure. That his remarks have been a source of pleasure and profit to many of our readers, we have not the least doubt. With the hope that he will continue the subject, and give us some illustrations of old houses improved, we leave it where it is.—ED.]

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#### REPORT ON GRAPES FOR 1862.

BY PRATIQUER.

ALTHOUGH this has been a great fruit year in the Highlands, grape-growers have been very much disappointed in the quality of their fruit, and many of my friends have disposed of their crops at ruinous prices, ranging from two and a half to five cents per pound for Isabella Grapes, which is the leading variety in cultivation. The

immediate cause for this low price may be traced to the want of ripeness in the fruit, and, consequently, to the exceeding bad quality of that sent to market. As good fruit always commands a good price in your city, we must not suppose that it was the redundancy alone which depressed the market. There are a few of us living in the Mountains who consider ourselves knowing ones. *We "take the HORTICULTURIST, and read it;" we raise ripe fruit of good quality, and we get a good price for it, even in such a plentiful year as that of 1862.* How then, methinks we hear some one ask, do you do it? This is what we are about to make known. *We cultivate and ripen the wood, upon which our future ripe and good fruit is to grow,* and we follow as closely as we can, and as near as our clever neighbors will let us, the instructions laid down in your journal, as to pruning, pinching, &c. It is true, we are pointed at as book-learned grape-growers, who will not profit by experience. Experience of what? why, of those who will not consider these facts, but who follow Nature in the cultivation of the grape. Now Nature lets her vines grow wild, run great lengths, get into tall trees, and sometimes, though not very often, produces ripe, luscious fruit. Then Nature gets all the glory, and art, science, and skill are nowhere. Our answer to Friend Experience this year is, "We told you so;" and this will be, we think, the answer for many years to come. The principle of cultivating the vine so as to cause the sap to mature the fruit near the root, keeping the vine, a fruitful vine, away from Nature's tall trees; producing ripe, luscious fruit, and a good deal of it, is a triumph of skill over Nature, that even Nature's own advocates must sooner or later acknowledge; and if they profit by it, will show their good sense. With good culture, the Isabella grape may be ripened year after year, and no longer be a by-word or a reproach to its cultivators.

I began this with a view of making you a "model report" on grapes for the locality of Fishkill, Dutchess County, New York, and shall take them in the order of their ripening.

1st. Hartford Prolific. 1st leaf, May 7; flower, June 10; fruit color, Augt. 7 to 16; ripe, Sept. 10. Some branches hung on the vines to Nov. 5th, and were shrivelled and dried partially, like raisins. They sold readily at 12 cents per pound, and were complimented by dealers as the first Isbellas in market.

2d. Creveling, a much better variety than No. 1. A young plant bore one fine bunch, ripe September 15th. This grape has great merits, and will doubtless become a favorite when better known.

3d. Early Northern Muscadine. Ripe, 15th September; leaf, 12th May; flower, 15th June; color, August 27. Hung on to 2d November, but dropped when touched; not otherwise.

4th. Clinton. Leaf, May 7; flower, June 3; fruit set, June 10; color, August 22; ripe, September 16; picked, November 2; and was then in fine condition for wine making, and by many admired for eating.

5th. Isabella. Leaf, May 12; flower, June 14; fruit set, June 20 to 25; color,

September 1; ripe enough to market, 17th; fully ripe, 30th. One vine colored 20th August, but did not ripen. On examination it was found to be half girdled by mice at the surface of the ground. These berries were very large and showy, but not sweet, having the flavor peculiar to girdled grapes. Isabella grapes are often marketed before maturity. Unripe grapes on the 17th September sold for 8 cents per pound; those that were fully ripe on and after the 1st October brought 9 cents at wholesale. Common fruit was then selling at about 4 cents. An offer of 15 cents was made for the balance of the crop on 27th October, which closed the season. Truly, "the Isabella can not yet be dispensed with."

6th. Catawba. Leaf, May 14; flower, June 17; mildew and rot, July 20; color, Sept. 2; and on 22d some few berries were ripe, but a portion remained unripe to Nov. 2d. Some fine bunches were selected and exhibited at the Newburgh Bay Horticultural Society's exhibition on 24th Sept. After the rot commenced, I strewed the vines, fruit, and leaves with a mixture of one part sulphur and twenty parts air-slacked lime, which appeared to arrest it.

7th. Perkins. Leaf, 15th May; flower, 12th June; color, Aug. 26; ripe, Sept. 23. Drops from bunch; has a strong flavor (odor?) admired by many, and would sell well in small quantities at 12 cents per pound. Handsome fruit of a grayish pink, buttery, with a tough, thin skin.

8th. Concord. Sets scattering, but produces beautiful, large bunches. Leaf, May 15; flower, June 20; color, Aug. 22; ripe, Sept. 26. Hangs well to 1st Nov., and does not then drop. This is among our fine grapes, worthy of cultivation. Sells for 12 cents in market. It is not a favorite after the Isabella ripens.

9th. Hyde's Eliza. Leaf, May 16; flower, June 19; color, Aug. 27; ripe, Sept. 26. Sweet, vinous, hangs well; keeps well; will dry as a raisin; desirable. For three successive years I have found it good. It is not of the Isabella variety, as reported by the Fruit Grower's Society of Eastern Pennsylvania.

10th. Rebecca. Leaf, May 16; flower, June 25; color, Aug. 25; ripe, Oct. 16. Has the taste of a foreign grape, though less sweet. Is a feeble grower. One vine will generally suffice. Casts its leaves early.

11th. To Kalon. Leaf, May 15; flower, June 21; mildew, July 10; fruit rots badly; color, Sept. 6; ripe, with inferior bunches, Oct. 5th. Not desirable.

12th. Allen's Hybrid. This is the first season of fruiting, and, to my great disgust, was covered with mildew like the foreign gooseberry. Some few berries that escaped were ripe and sweet Sept. 26. I hope this is an isolated case. The appearance of the mildewed fruit is the same as that of the Chasselas and Gutedel, which we cultivated 25 years since in the open air.

13th. Garrigues, a very poor imitation of the Isabella, ripens later, and is worthless to the cultivator.

14th. American Hamburg; similar to the last described, only a little more so. This must be the grape which a celebrated cultivator describes as having for

its pulp a "hard lump which passes undigested into the stomach, and which has performed its mission," if it ever had any. Worthless.

15th. Diana. A good grape, if it only would ripen. Leaf, May 12; flower, June 18; has some rotten berries; color, Aug. 27; on Nov. 2 there were some sweet and palatable berries, but not ripe.

16th. Anna. Leaf, May 15; flower, June 21; rot, July 12; color, Sept. 26; not ripe, Nov. 5, though other varieties in the same ground, with the same treatment, ripened well. This must be classed among the most worthless.

17th. Delaware, though last, not least. You may say I have "kept the good wine (vine) until now." This is the most unexceptionable grape, as it always ripens, and has a delicious, sweet, vinous, agreeable flavor. Leaf, May 13; flower, June 20; color, Aug. 27; ripe, Sept. 20. Hangs well; holds to the bunch, and is always good with me, as long as it lasts, which is not long. We send none to market, feeling that the laborer is worthy of his hire, and that he who grows good grapes gains great glory, and is himself worthy to glean and consume the product.

[Still another model report, for which you have our thanks. You are unquestionably right in saying that well-grown grapes of good quality will always bring a good price. We have never known it to be otherwise. We feel a good deal flattered by the knowledge that you attribute your success to following our suggestions. We have been similarly complimented from a number of other sources; and we may say here, that he who faithfully works out our "Hints," can not fail to achieve success in grape culture. Your account of the Hartford hanging on is the most favorable we have yet heard. The fruit does not drop so much on old vines as it does on young ones. The Creveling, we think, is destined to become a popular early grape. It is a fruit of much better quality than the Hartford. In regard to the Isabella, fully one half of all sent to market are unripe. The same remark will hold good of many other kinds of grapes. We hope Allen's Hybrid will do better with you hereafter, for it is really a fine fruit. How far it will be subject to mildew can not be certainly known yet; but we hope for the best. Anna, we are sorry to perceive, has been wayward and coquettish with you. We regret this, because we are very much disinclined to believe any ill of one bearing such a pretty name. Bear with and coax her yet a little while. Truly you have "kept the good wine until now." Whether mentioned first or last, the Delaware is sure to assert its pre-eminence. You may depend upon the Delaware when every other grape fails you. But it seems that it does not last long with you; somehow or other, it is just so with us. Model reports and Delaware grapes are always in order.—ED.]

## LANDSCAPE GARDENING AS APPLIED TO RURAL CEMETERIES.

BY VIATOR, CLINTON, N. Y.

In the application of the rules of Landscape Gardening to public and private grounds in this country, we have as yet but in few instances arrived to the highest degree of excellence. The subject is comparatively new with us, no general attention having been given to it, until within a few years past. Even now there are but few that seem to comprehend the subject, and its practical application. Although there are many that lay claim to considerable progress, and some who have given us fine examples of what may be done in this department of art, yet we think but few can excel who have not the genius to be close copyists of Nature. Whatever may be thought of the propriety of remarking freely upon the manner in which individuals arrange and work their private grounds, we think it is no breach of politeness or good breeding to notice, in a general way, any essential errors that may appear, as this may be of advantage to those who are preparing to do work of this kind upon their own grounds, and also, in some instances, may call the attention of those more directly interested to errors that may have escaped their observation, in time, so that a remedy may be applied. Especially may this reason hold good in works of a public character. In the well-penned criticisms of the HORTICULTURIST upon the work in the Central Park, we have a good example of what has been done to benefit that work, and to furnish valuable hints to others.

Public works are expected to be the best of their kind. In most instances the amount of money to be expended is larger than can usually be furnished by individuals, and in proportion as the influence of public works is necessarily greater than those of a more private character, so, when they are essentially defective in design or working, or not in good taste, they are fair objects for criticism. All works of this kind should be of such a character as will tend to elevate the standard of public taste wherever undertaken. Without claiming any special fitness to point out errors, or what is needed to the perfection of such grounds, I propose, in a brief and desultory way, to make some suggestions and to give some of the impressions made upon my own mind in a late visit to some of the cemeteries of New England.

My first visit was to the Old and New Cemeteries of the city of Hartford. They are both laid out with straight roads and walks running through them, with others crossing at right angles, marking the grounds into rectangular sections. In the old grounds the lots are graded very unequally. Many of them are fenced in with high iron and wooden fences, with very contracted spaces between them. We noticed many of the lots which were considerably raised above the natural land of the adjoining ground, and some that were entirely neglected and the grass uncut.

While there are many fine monuments and some grounds well improved, a large amount of money has been expended in monuments, stones, and fencing, which does not materially add to the character, interest, or beauty of the place. Being planted with trees and shrubs, there is in this respect some improvement upon the old style of country church yards; but in other respects they have many characteristics in common with them. What is called the New ground is very similar in character to the Old, with perhaps some improvement in planting and grading, and in the spaces between the lots, and in occasionally rounding off of corners where the roads meet or cross each other. The same prevailing general character is exhibited in both. A serious objection to both is, that they are located in the thickly inhabited portion of the city.

At Mount Auburn, near Boston, we found a cemetery constructed after the more modern ideas of what such grounds should be, and, if I am right, one of the first attempts in this country, on so large a scale, to apply the modern rules of Landscape Gardening to Rural Cemeteries. We have here what we should anticipate, a close adherence to curved lines. What else should we expect? A Bostonian is brought up and educated in crooked and curved streets; from early youth to manhood and old age he walks through these streets; their beautiful curves and intricate windings are so impressed upon his mind that all stiff and straight lines are at once discarded and thrown aside whenever he attempts any thing in the way of rural adorning. Does not this furnish us with a satisfactory reason for the beautiful lines we see about the fine residences in the vicinity of Boston? these being here the rule rather than the exception, as we find them elsewhere.

In this respect no fault can be found with the roads and walks at Mount Auburn. The general arrangement of these appear to be convenient, and furnish easy access to every part of the ground, and are mostly well-constructed and neatly kept.

Of the expensive and beautiful monuments, the costly tombs, granite inclosures of lots, its lovely dell, the tower, the chapel and its statuary, it is not necessary to speak. All who visit here can not but be struck with the profusion exhibited with which money has been invested to perfect these works of art. But with so much that is costly and beautiful, there are other features that are in contrast to this. The high iron fences and hedges walling in small lots, and these placed thickly together, with scarcely any space between them, soon become tiresome and repulsive to the visitor, and he feels that they do not properly belong here. The trees, many of them, are far from being good specimens of their kind, and too many large trees are permitted to grow upon the lots. In looking down from the tower, it has the appearance of a thickly wooded forest. This is highly objectionable, as it prevents the free circulation of the air and the drying effect of the sun. We can not but think that an extensive thinning of trees and a judicious grouping of those suffered to remain, would greatly improve not only the appearance, but healthfulness of these grounds.

In grading, there seems to be no general rule followed, but each owner is permitted to create such a surface as pleases him, without regard to the natural surface of the ground. Where the grades conform nearly to this surface, they appear much less artificial and are more satisfactory. We well know the difficulty of inducing most persons to adopt curved surface lines rather than flat and level ones, of employing, if any, low inclosures for their lots, and of planting sparingly of large trees; yet we think that in works of this kind the rules should require a strict observance of uniform and appropriate practice in these respects.

These are among the more prominent imperfections, as it seemed to me, to be found at Mount Auburn, and I was gratified the next day, in visiting the Forest Hill Cemetery at Roxbury, to find in some of these particulars a decided improvement. This cemetery exhibits more nearly the true idea of what belongs to a rural cemetery, and contains about the same quantity of land as that at Mount Auburn.

The style of trees and planting are better ; the spaces between the lots, and the margins along the roads and walks, are more ample. The lots are much less walled in with high inclosures and hedges, giving it a more open and less crowded appearance at present, though we think even here, as the trees become larger, a much less number will be required than are now planted in some parts of the ground, to produce a satisfactory result. Although there is not here that prodigal display of costly monuments and other structures, which in their exuberance we feel to be almost oppressive at Mount Auburn, there are many well improved lots and fine monuments, and some that will compare favorably with those found there. We noticed one that particularly pleased us; a brown stone Gothic monument upon a lot kept in the best manner, situated upon a point where several roads meet, with a high rock covered with the English Ivy as a back ground, that seemed as appropriate and in as good taste as any single one we have seen.

The lake and its islands, and its outlet, are pleasing features in this cemetery. The grass upon the lots and borders is kept closely cut, and a great quantity of flowers are planted along the well-kept borders of the walks. This last feature appears to have been carried to excess in some portions of the ground, making a too gaudy display for the purposes to which the place is appropriated. The study should be, in all adornments of such grounds, to produce variety, and only admit things that are simple, chaste, and appropriate, and in good keeping with the use to which the ground is dedicated. It has been well said, "The grave should be surrounded by every thing that might inspire tenderness and veneration for the dead, or that might win the living to virtue." The surface grading and arrangement of walks ; the form and material of monuments and other structures ; the planting of a variety of trees, shrubs, and flowers ; the keeping and working of the ground, should all be so directed that nothing shall appear that is offensive to good taste.

The frequent repetition of the same idea as an iron fence, the same style of

monument, the continuous planting of the same kind of trees, shrubs, and flowers at equal distances along the walks, and the grading of lots in flat surfaces, soon cease to interest the visitor; and we expect, at no very distant time, to see those having these and like works in charge, working their grounds and grading them to correspond nearly with the natural surface of the ground, and planting them with good specimens of single trees of suitable kinds, or in groups, before offering their lots for sale; or of so controlling the improvements and working as to remedy the evils alluded to, and other objectionable practices that are now too frequently brought to the notice of those who visit them.

[We are much pleased to have our attention called to this subject, especially by one so able as "Viator" to do it justice. The application of the rules of Landscape Art to Rural Cemeteries has not hitherto received the attention it deserves; and one reason would seem to be a prevalent idea that these rules are unsuited for any such application. This is a great mistake; for there is a peculiar propriety in their application to this purpose. This, we are glad to know, is beginning to be more generally understood, and the taste and knowledge of the landscape artist is now brought into requisition in adorning these "cities of the dead." The criticisms of "Viator" are in excellent taste. Having had our attention called to the subject, we propose to follow it up, unless "Viator" will consent to continue what he has so well begun.—ED.]

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THE APPLE OR ORANGE-SHAPED QUINCE.

(See *Frontispiece.*)

BY THE EDITOR.

"WHERE are the Quinsins?" asked the little son of El Medico, in our May number, after having examined the pictures of a bound volume of the *HORTICULTURIST*. We promised you a picture of one, Frank, and here it is. As you are a dear little fellow, we looked about for a great big one for you, and have had it nicely colored. We hope you and all our readers will like it very much. It was grown by Mr. Cyrus Knapp, of Hackensack, N. J., who had a number of others like it. He ought to feel very proud of growing such fine specimens. But we must tell you, Frank, that all Quinces do not grow as large as this one. We hope, however, that you will grow some quite as large one of these days. The Quince, Frank, belongs to the genus *Cydonia*. There are several kinds, such as the Apple-shaped Quince, the Portugal Quince, the Chinese Quince, Rea's Seedling, and others, the best and largest of these being Rea's Seedling, which is probably

the kind your father saw at the Fair. Then there is the Japan Quince, grown for the sake of its brilliant flowers; it is one of our best ornamental shrubs, and sometimes bears a fruit that will pucker your mouth all up. The kind that we have selected for you is the apple-shaped Quince, which grows on a tree some eight to ten feet high. Some people think it grows best on low, damp soils; but that is all nonsense, Frank, and you must get no such ideas in your head. It grows best on a rich, mellow, well-drained soil. In damp and wet places it becomes hard, gritty, and astringent, whereas on a well-drained soil it grows large and mellow. Some people grow it like a bush, letting suckers come up and grow as they will, and never taking the least pains to prune it. Such people are dreadful slovenly, Frank. You must not be so, with your Quinces, or any thing else. Your father must buy you one of Rea's Seedling, and prepare a piece of ground to put it in, digging it deep, and enriching it with some old manure and plenty of muck. After that is done, and the hole ready, spread out the roots carefully, and work in some nice fine soil all around them. Trim off all the branches within two feet of the ground, and as the tree grows, cut out such branches as interfere with each other. If you will only take a little pains in this way at the beginning, you will in time have a nice, round-headed tree, loaded with beautiful golden fruit. After the tree is once established, it will require little or no pruning. If you want large Quinces, Frank, you must break off a good many when they are quite small. You will get quite as many pounds as though you left all on, with this advantage, that the fruit will not only be large, but very much better. You must look out for the borer, however, and punch him out if he gets in, or he will spoil all your hopes of big quinces.

Quinces are not eaten like Apples and Pears, Frank; they are made into jellies and preserves, which are very nice when well made, with the flavor of the quince preserved. They are profitable to raise for market, always bringing a good price. But we will tell you more about Quinces at another time, and give you some more pictures. So good-by, Frank, for the present.

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#### REMARKS UPON THE DAHLIA.

BY A. VEITCH, NEW HAVEN, CONN.

THOSE who have been acquainted with the Dahlia for the last twenty-five years can not but be struck with the marvellous improvement it has undergone during that period. A little previous to that time they were what may be considered in the middle stage of their progress from the single and not very inviting "Wildlings of Nature," to the highly improved condition now so strikingly manifested. To bring about this change, the labor of florists has been immense; and it is interesting to remember, what a degree of intelligence some of those

in the vanguard exhibited in laying down a standard to which they would ultimately reach, at a time, too, when such flowers as we now possess were but dimly foreshadowed by living forms, and had existence only in the dreams of enthusiasts; many of whom, as a matter of course, were sneered at by the "Jasper Stand-stills" of the day. Fastidious florists may have differed somewhat as to some of the particulars which they considered indispensable to the making up of a perfect flower; but there need be little difference now in regard to the leading points, as these are no longer subjects of speculation only, but are abundantly manifested in those varieties which occupy the post of honor in every good collection, and every exhibitor's stand.

It may seem of little importance what sort of footstalk a flower should have; whether long or short, stiff or slender; but, upon consideration, more depends upon this for showing a flower to advantage, than at first sight may appear. There are some good flowers with peduncles so short that they are hidden by the foliage, which greatly detracts from their bearing and show in the garden. It therefore seems a principle that the footstalks be long enough, and not longer, than to carry the flowers clear of the foliage, and stiff enough to permit them only to lean a little to one side, as in this position they can be seen to greater advantage than when standing upright or nestling among the leaves. The new Dahlia, Emma Cheney, may be mentioned as affording a good illustration of what we mean, and which, by-the-way, is greatly at fault in this respect. I had almost said the flowers of that variety are sessile; the footstalks are so short, however, as to necessitate the curious in many instances to turn aside the leaves before they can get a look of the flowers at all.

As to the flower itself, the point of greatest importance, and the one to which all the others are merely accessory, is that of form. Without this, color is but a poor recommendation, and size of small value. A flower may be all that can be desired in size, and adorned with the richest colors; but if the petals are coarse and ill shaped, and loosely or irregularly put together, its recommendations to notice would be perfectly unintelligible. On the other hand, if well formed, it can claim a place, although possessed of all other properties in a subordinate degree. "Two thirds of a ball when looked at sidewise" is the form most approved by those who have bestowed the greatest attention upon the subject. Some of the best varieties, when well grown, come nearly up to this requirement. The Duke of Roxburgh and Andrew Dodds are so near that little more can be desired. Take well-grown flowers of those varieties, and subject them to the most critical examination, the astonishment will be how they came to be so perfect. In size they are quite respectable, and in color the best in their classes. If a flower of either is cut into two equal parts, one half laid flat upon a sheet of paper, and a line drawn around it with a pencil, touching the extreme points of the petals in the operation, the result will be a nearly perfect segment of a circle. Were it entirely perfect, the highest point would be reached as regards form. When

subjecting flowers to such an ordeal as this, their defects become very apparent, and their relative merits equally so. Some are too high on the shoulder, others too low; some too low in the centre, or hollow in the eye, as it is sometimes called; while others have petals so incapable of holding their form, that they get out of order, fall back, and go to decay before the centre petals are fully expanded. That is a perfect flower only, the first blown petals of which maintain their position to the last, or until those of the disc are fully developed. Carrie Emmons is one of those very defective as regards this point; therefore we think Carrie Emmons is not so good as has been represented, and by no means a first class Dahlia.

Then, again, looking at the individual petals of a first-rate flower, they are neither beaked, nor toothed, nor flat, nor reflexed, nor quilled, or funnel shaped, nor cupped, but smooth on the edges, and folded so as to be nearly elliptical in outline. And how admirably this form adapts them for constituting in the aggregate a perfect whole. Better than when quilled, as the spaces between the petals are less, and not so much of the under as the upper surface exposed, while a greater breadth of surface can be taken in at a glance. And better than when flat or reflexed, as the many waving lines, standing out in relief, are richer far than when they are flat or arranged in any other way. Another beautiful feature is the manner in which they are arranged. Beginning with the under petals, which invariably ought to be the largest, they "grow small by degrees, and beautifully less," until the summit is reached, where they should be so dense as to cover the entire disc, and not even a stamen or a scale be seen, and none the worse for leaning a little towards the center. The imbrication should be perfect throughout, and each row of petals of a uniform length.

Of color I do not speak, as it is rather a perplexing subject, and seems to become more and more embarrassing by the giving of new terms—such as Mauve, and Solferino, and Magenta—to colors which, to my poor apprehension, are as old as the ass and the death of Abel. Be that as it may, however, we all derive much pure pleasure from looking upon flowers whose colors are clear, and bright, and dense, no matter of what shade they may be. The Dahlia is no exception in this respect, and the flowers with the richest colors, if otherwise good, will be the most sought after. Among the fancy varieties there are some very striking and fanciful shades. Those are the most beautiful which have a clear ground color, and when the markings contrast well with it, either by lacing the petals, or when laid on in flakes, or in distinct dots.

These remarks may be appropriately concluded by subjoining a descriptive list of a few of the best which have yet found their way into this section of the country. They have been selected with the utmost care from a collection of nearly two hundred varieties, grown the past season by Robert Veitch of this city, and may be regarded as preëminently beautiful. Should any of the readers of the HORTICULTURIST be able to add to these any that are better, or even quite

as good, it might be well for them to do so, as, by so doing, they would confer a favor on some Dahlia growers.

Duke of Roxburgh, orange buff.

Madge Wildfire, deep orange scarlet.

Triomphe de Pecq, deep claret maroon.

Andrew Dodds, very dark purple.

Mrs. Dodds, clear yellow.

Vesta, pure white.

Lilac Queen, clear lilac.

Peri, light blush, shaded with rosy lilac.

Neville Keynes, yellow, laced with reddish purple.

Wallace, rosy lilac.

Emperor, dull red.

King John, pale peach lilac.

#### FANCY VARIETIES.

Fancy Queen, maroon purple, tipped with white.

Starlight, reddish purple, tipped with clear white.

Fulgens picta, fiery red, tipped with white.

Harlequin, yellow, distinctly flaked with red.

Queen Mab, drab, tipped with white.

Lord Stanley, lilac, flaked and spotted with dark maroon.

[We are much pleased with Mr. Veitch's remarks. There is so much looseness among us generally in regard to the good points of flowers, that we are glad to see somebody stand up boldly for a critical standard. There are some rules laid down for the form of flowers, which, if worked out literally, would result in a greater degree of stiffness and formality than we should like to see prevalent. An analysis of these rules by persons of cultivated taste and liberal views, would result in checking a tendency this way. Mr. Veitch's remarks are judicious. We think, however, he is mistaken about the footstalk of the Emma Cheney dahlia; or it may be that a change of soil, or a different mode of culture, has shortened it. We have been familiar with it for some three years, and have found no difficulty in seeing the flowers as far off as we could see most others. A footstalk about four inches long can hardly be called sessile. Let us take Pre-eminent, a Dahlia that Mr. Veitch might very well add to his list; this year the footstalk with us has hardly been two inches long; yet it is not usually so, and is by no means characteristic of that fine Dahlia. The cause that operated here may have operated with Mr. Veitch; but we can not think, after what we have seen, that a very short footstalk is characteristic of Emma Cheney. Form is undoubtedly the first point in a good Dahlia. There are two ways in which a good form is manifested; one called the bee-hive and the other the round. They embrace, one

the parabolic and the other the circular curve, and it would be difficult to say which is the most beautiful. We know of no Dahlia that will meet the requirement of holding its first petals to the last. We have never seen one among the thousands that we have grown. There are quite a number that maintain the circular form till the flower is past its prime; but the first petals decay, the next row taking their place. There are some Dahlias, the first petals of which, for want of substance, lose their form when the flower is scarcely half expanded. These are probably the Dahlias Mr. Veitch has in view. We do not believe Carrie Emmons to be one of them, however. We have not seen as much of it as we have of Emma Cheney, and therefore can not speak of its habits so confidently; but Mr. Richardson, at different times, brought us flowers in different stages of development, and in every instance the form was as perfect as any thing we ever saw; in fact, we considered its form a marvel of beauty, Mr. Richardson, in this respect, ranking it among the best of all his Dahlias. How far this perfection of form was due to Mr. Richardson's skill, we can not say; all we know is, the form was there, and Mr. Richardson has no superior among us as a Dahlia grower; at least nobody has yet shown himself so. We have great confidence in Mr. Richardson's judgment and taste; and none the less because he ranks among our best artists, which may be supposed to give him a good knowledge of color and form. Our opinion of the Emma Cheney Dahlia, however, was quite independent of Mr. Richardson's; in fact, we always have an opinion of our own. We do not understand Mr. Veitch as by any means giving an adverse opinion of this Dahlia; he simply points out what he considers an imperfection in its foot-stalk, which we hope and believe he will find only temporary. We will just say here that nothing would please us better than to have Mr. Richardson and Mr. Veitch discuss the "points" of a good Dahlia. We should look for some valuable information as the result. Mr. Veitch does wisely in avoiding the subject of color, unless he would devote several articles to it. We remember how impatiently we waited for our *mauve* colored Verbena to come into bloom, and what a *pshaw* greeted the event when it did happen. And the Solferino and Magenta colors! These may do very well for Paris milliners at their wits' end, but we hope florists will avoid them. It will be some time before we help to give color to that kind of public opinion. Mr. Veitch's list of Dahlias is a very good one; there are others equally fine that may be added to it. This we leave to some of our readers to do.—ED.]

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#### GROWING ISABELLA GRAPES.

BY EUCLID.

MR. EDITOR,—A hint is as good as a kick, and your "Hints on Grape Culture" have been of great service to me this year. To show you how I have profited under your instructions, I send you a basket of Isabella Grapes, a fair sam-

ple of my whole crop. Without your aid I should never have grown them so large, so fine, so ripe, so delicious. May I be excused for saying that the Isabella Grape is *worthy of cultivation*, and stands next to the Delaware? When I say cultivation, I do not mean neglect. I am told by those who have more knowledge, that my *experiment* (query, is it an experiment?) I followed your directions as closely as possible) has succeeded this year because my vines are *young*. The finest grapes of this variety that I ever saw before were grown on a very *old vine*, planted—may be it grew without planting—away back in my infant years, long ago. My mother had her pretty posy bed under the grape vine, which grew up on a trellis, over the well, into a tree, and ripened its berries fifty to a hundred feet from the roots. And such grapes! but Isabella was then *the grape*, and would be now if rightly cultivated.

I have followed your directions, and have ripened the canes in the hopes that I can send you another basket equally as good the next year; for your Hints, if good for any thing—and I think they are—are worth to me a basket of grapes yearly. An old fruit grower who lives near me says that I shall never be able to get as good bunches and ripen them so well again; that when he first began he had fine fruit too; that he dug around his vines, and spent a good deal more time than he can afford to now, for it no longer pays. He can get but two to four cents a pound for his best fruit. Pray tell me, is this so? If he is right, will it not *pay* (that is the *summum bonum* in growing grapes, as well as in all other pursuits) to set out new vines, as we do Strawberries, every year? I think my neighbor's vines have gone to grass in more ways than one. He cuts enough of it to feed his cow, but when the time comes to send his grapes to market he finds them unripe. I heard him inquiring the other day how to make vinegar. He says it is no longer profitable to cultivate them; thinks the climate has changed. Once he could raise as good grapes as any body, but can do so no longer. He thinks the vines have run out. Do you think the digging around my mother's vine had any thing to do with ripening the grapes so far away from the roots? or was it because they got to the sun, and air, and light at the top of the old plum tree, as some of the neighbors believed? My vines are five years planted; three years ago they were cut down by the severe cold weather. I then grew new canes, and this year they fruited. I allowed but two bunches to grow on a shoot, and pinched in as you directed, growing other canes for the next year's fruiting, and have them ready ripened. All my bunches of fruit are equal to those I send you, weighing more, probably, than if all had been allowed to grow. The ground was kept loose and free from weeds, with carrots and potatoes between the rows.

[The box of grapes was duly received, for which please accept our thanks. We were about to compare them with a sample sent by another correspondent to illustrate his principle of growing grapes; but as the comparison would be no comparison at all, and we do not wish to hurt his feelings, we refrain. Suffice it to

say, that your Isabellas were equal to the best we have seen. If generally grown as well, and sent to market in the same ripe condition, the Isabella would be thought more of by the public. Such Isabellas you can always grow by regarding our Hints. What we and others have done for many years by following this treatment, you can do. Now a word about your "old fruit grower." If he has grown *old* in fruit growing only to indulge in such talk, all we have to say is, that he has grown old without knowledge. Old vines, if they have been well grown, *always* produce better fruit than young ones. It is easy to see where your old neighbor failed; as his vines grew old, he was afraid to give them as much care as he probably would any of his ordinary field crops, and they resented the neglect by "*sour looks*," and unyieldingness generally. The vine is generous, especially when young, and we may rely upon one or two fair crops under neglect; but this will not last long, as your neighbor has discovered. We do not know your neighbor, or the condition or position of his vineyard; but we will stake our reputation (and that is very dear to us) upon our ability to make his vines produce fine grapes in from two to three years. There may be local causes why a vineyard should not succeed upon a particular spot; but all excuses based upon change of climate, vines running out, etc., are without reason. There can be little doubt that the frequent stirring of the soil about your mother's vine had much to do with the perfection of the fruit, though other causes may have coöperated with this, a free play of light and air being among them. Our advice to you is, to keep on as you have begun; so shall you be spared the trouble and vexation of planting your grape vines as you do strawberries.—ED.]

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NEWBURGH BAY HORTICULTURAL SOCIETY.

BY THE EDITOR.

WE had the satisfaction of being present at the fall exhibition of this thriving young society, held at Newburgh on Wednesday and Thursday, Sept. 24th and 25th. As the edifice in which it was held was a church, it would not be quite proper to say it was not a *good* one; yet we may be permitted to say that it was not half large enough. A building twice the size would have been none too large. The exhibition, as a whole, was creditable to Newburgh, to the Society, and to those concerned in getting it up; yet we shall expect them to do much better next year. The arrangement was about as good as the room would admit of; in some respects, there was manifested decided good taste. The *rules* of the exhibition were in some particulars defective; but such things are incidental to a new society, and in time usually correct themselves. It is much to the credit of the people of Newburgh that they seemed to be conscious of having a beautiful institution in their midst. We hope they will have the good sense to support it generously. For want of room, we can only indulge in a few general remarks.

The display of fruit was large and fine, especially apples, pears, and native grapes. There were fewer samples of foreign grapes than we expected to see in a place like Newburgh. There were samples of native grapes, not meeting in some respects the requirements of the rules, that were quite equal to those that took prizes. The same remark will hold good of other things. Mr. Charles Downing had a fine table of fruit, for exhibition only. There were some fine samples of fruit from Alexander Palmer, A. J. Caywood, James H. Palmer, and others, which the rules would not admit to competition, the exhibitors living outside the county. A plate of Seckel pears from Mr. Jno. Peattie was the best single dish in the room. Mrs. Geo. B. Reeve exhibited some beautiful specimens of the Gravenstein apple, which had been submitted to an interesting process, which left the names of individuals, &c., distinctly and sharply traced. They were the first specimens thus treated that we had seen exhibited. Mrs. Reeve deserves much credit for her success in this beautiful art, which will be described hereafter.

The display of flowers was good; but there might have been twice as many if there had been room for them. An ornamental parlor stand from Miss Denning was exceedingly pretty and unique. It was in the form of a center table, about six inches deep, lined with zinc, and filled with sand, in which the flowers were imbedded. The whole was covered with a glass top. Filled with about 150 varieties of flowers, it was a very beautiful object. Mr. Brinckerhoff had a fine collection of pot plants, embracing Caladiums, Begonias, Marantas, and many other pretty things. Mr. Sargent also had a collection of rare pot plants. There were other good things in this department. In the arrangement of flowers, Mrs. Charles Downing showed much the best taste. Strait-laced bouquets have little beauty in our eyes.

The vegetable department was abundantly stocked with good specimens. The best thing here, and one of the best things we ever saw, was an ornamental arrangement of vegetables in the form of a cornucopia, by W. L. Findley, Esq. It was most admirably done. We tried to get a photograph of it, but did not succeed.

We have no space for further detail. We are compelled, much to our regret, to omit the list of prizes till next month.



#### EXHIBITION OF THE BROOKLYN HORTICULTURAL SOCIETY.

BY THE EDITOR.

THE fall exhibition, before alluded to, took place at the Academy of Music on the 24th, 25th, and 26th September. Our notice was crowded out last month for want of room. We have heretofore spoken of the fitness of the Academy for a horticultural exhibition. It is by far the best place in Brooklyn. The parquette was floored over as usual, and the stage tastefully decorated with bunting. In

front of the stage was a tank, in which floated majestically the great Victoria lily. This was sent in by Mr. Bearns of East Brooklyn, who has been very successful in growing this stately plant. The display of ornamental leaved plants was a striking feature of the exhibition. No matter how few their number may be, they never fail to arrest the attention. The collection from B. C. Townsend, Esq., was large and magnificent. His collection is probably not excelled by any in the country. A vase of skeletonized plants from Mr. Platt was a beautiful object, the specimens being admirably prepared. The flowers and pot plants were, on the whole, better than has been usual even at these fine exhibitions; but we have no space for much detail. The collection of fruit was large, as was to have been expected after such a season as we have had; but a great deal of it was very fine. The large exhibitors of Apples were Ellwanger & Barry of Rochester, and W. B. Smith of Syracuse. Pears were plentiful, the largest collections being from Ellwanger & Barry, Gabriel Marc, P. T. Quinn, etc. Among grapes, Mr. Fuller led off with some twenty varieties of natives, and Mr. Mace came in, too late for competition, with some very beautiful Delawares. Messrs. Egan, McMillan, and others, showed very fine foreign grapes. This was, in many respects, the Society's best exhibition. The attendance was fair, but how far it was remunerative we can not say. We hope, however, that the results of this exhibition have not been discouraging. We should learn with mortification that there is not in Brooklyn enough true taste and refinement to support a Horticultural Society. The list of prizes is omitted for want of space.

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#### ADDRESS OF PRESIDENT WILDER.

[Continued from p. 536.]

#### THINNING OF FRUITS.

ONE lesson which experience has taught us, is the importance of thinning the fruit, especially of apples and pears. This branch of Pomology has received comparatively but little attention. There is a limit to the capabilities of all created things. If you tax the energies of an animal too severely for a long time, the result will be premature age and decay. Subject any vegetable or mineral substance to too great pressure, and you destroy its power of cohesion. So if you permit a tree to bear beyond its strength, you injure its fruit, retard its growth, and shorten its life. All have observed that superfecundity one year produces barrenness the next. Hence we hear among our farmers and gardeners of what they term the bearing year. They invariably designate the Baldwin apple as a tree that bears on alternate years. But is not the cause of this alternation found in the fact, that the abundant crop of the bearing year exhausts the

energies of the tree, and absorbs the pabulum so as not to leave sufficient aliment for the formation of fruit spurs for the succeeding year? Many varieties have a tendency to overbearing, especially those which produce their fruit in clusters. Nature herself teaches us the remedy for this evil, and a superabundance of blossom is generally followed by a profuse falling of the embryo fruit. When and where this dropping is not sufficient to prevent overbearing, we should resort to the process of relieving the tree of a portion of its fruit.

The organism which carries on healthful development, in order to repeat its cycle of functions from year to year, can not be overworked without time for recuperation. Whatever of nutrition goes to the support of useless branches, or a redundancy of fruit, abstracts that strength from the tree which would otherwise be appropriated to the perfection of the crop, and the development of the spurs which would bear fruit the next year. One of the best cultivators in the vicinity of Boston has reduced this theory to practice, with the happiest effect, in the cultivation of the pear. His system allows no useless wood, nor more fruit spurs, and no more fruit, than the tree can properly sustain. As a consequence, he produces every year superior fruit, which commands the highest price. Some have doubted whether this practice can be made remunerative, except in its application to the finer fruits. But another cultivator, who raises an annual crop of the best apples, assures us that the secret of his success is the thinning of the fruit, and he has no doubt of the economy of the practice. No good farmer doubts the necessity of thinning his root crops, no *vigneron* the propriety of thinning his grapes. Analogy of cultivation, therefore, justifies the practice, and I entertain no question of its great importance.

Light, air, and moisture, are essential to the production of vegetable products, and especially of fine fruits. Who has not observed that the best specimens of fruits on a tree are ordinarily those which are most exposed to these elements? Who does not select the full sized ruddy fruit, which has had free communion with light, heat, and air, in preference to the half fed specimen which has shared its own proper nourishment with five or six crowded rivals on the same spur?

An experienced English cultivator says: "The bending of branches of trees by an overcrop of fruit is most injurious, for the pores of the woody stalk are strained on the one side of the bend, and compressed on the other; hence the vessels through which the requisite nourishment flows being partially shut up, the growth of the fruit is retarded in proportion to the straining and compression of the stalk." This is illustrated in the overbearing of some varieties, which, from a redundancy of fruit, without the process of early and thorough thinning, seldom produce good specimens, and in a few years become stunted and unhealthy trees. The overbearing of a tree is as much a tax upon its energies and constitution, as is the exhaustion of a field by excessive crops of the same kind, year after year, without a return of nutritive materials. Inexhaustible fertility is a chimera of the imagination. Sooner or later, the richest soils will require a restoration of what

has been abstracted by vegetation. However fertile at first, the constant over-cropping of the soil is a reduction of the elements on which health and fruitfulness depend. This great principle of sustenance and reciprocal relation runs through the whole mass of life, of mind, and of matter.

“One cry with never ceasing sound,  
Circles Creation’s ample round.”

Intimately connected with this process of thinning, is the time when the work should be executed. It should not be done before we can distinguish the choicest specimens in a cluster of fruit, nor delayed so long as to waste the energies of the tree. This practice, judiciously followed, will supersede the necessity of staying up the branches, will prevent injury to the tree by their breaking, and will prove decidedly economical.

Associated with the thinning of fruits is the expediency of gathering a part of the crop as soon as it approaches maturity. The remaining specimens will thereby be much increased in size and excellence. The fruit of a tree does not all come to maturity at the same time, hence this successional gathering will turn the crop to the highest practical account, and will keep the productive energies of the tree in a healthful and profitable condition.

Does some one say, leave all this to Nature, and not attempt to mend the ways of Providence? But was not man ordained to help Nature, and placed in the garden to dress and keep it? True, God has enacted general laws, but requires us to turn them to the highest practical account. Thus he has given us in fruits and flowers forms of beauty and loveliness, and has assigned to us the duty of bringing them to the greatest possible perfection. It is, too, by a co-operation with Nature, in what we may esteem little things, that the highest achievements in science are reached, and the most valuable results attained. The ocean is but the accumulation of drops, and the mountain is but the rolling up of pebbles. From the slender spire that trembles beneath the weight of the dew drop, to the lofty monarch of the forest, whose hoary branches waved in the breeze a thousand years before the birth of the Christian era, we have signal proof of the law of mutual dependence and support.

Fruit trees will not take care of themselves. Constant vigilance is the price of superior trees or superior fruit. The poet may sing of the

“redundant growth  
Of vines and maize, and bower and brake,  
Which Nature, kind to sloth,  
And scarce solicited by human toil,  
Pours from the riches of the teeming soil;”

but the cultivator of fruits must realize the fact, that without care and skill he can not depend on uniform and continued success.

## NEW NATIVE VARIETIES.

I have before spoken of the production of new varieties of fruits adapted to our country. But as it is "line upon line, and precept upon precept," that makes a durable impression, let me remind you again that the future success and progress of American Pomology must rest mainly upon the introduction of new kinds raised from the seed upon our own soil. Let me, then, encourage you in your laudable enterprise.

Is there any reason why we can not produce winter varieties of pears of the finest quality, as beautiful and smooth as the favorite Bartlett or Louise Bonne de Jersey? The Beurré Langlier and Glout Morceau, in regard to beauty, are of this class. Why cannot we have, instead of the rough exterior of some of our late sorts, those of fair skins and ruddy colors? And then in regard to flavor, why not be able to produce those of a rich character, like the Seckel, Belle Lucrative, and Passe Colmar? From the seed of the latter many varieties were raised by the late Mons. Esperin, of Malines. Some of these are even superior in saccharine matter and richness to the parent, but unfortunately not well adapted to our climate. Why should not our popular Bartlett be the mother of a race equal in quality and hardier in character? Of the seedlings raised in this vicinity, those on exhibition from Mr. Richardson, of Dorchester, Mass., are striking illustrations of the value of this variety as a parent from which to originate good native sorts. The experiment of the late Mr. Clapp, of Dorchester, in the union of the Bartlett and Flemish Beauty, as is believed, produced the Clapp's Favorite, a pear of equal size and beauty, entirely hardy, and pronounced by the best judges to be superior to the variety first named. The seedlings raised by Mr. Dana, of Roxbury, Mass., are all good. Some of them are superior, and evince a constitution and vigor which adds much to the value of their excellence. When we reflect upon the little effort which has been made to produce native varieties, it is wonderful what progress has been made.

In the production of new sorts we should aim first, at a strong, hardy, robust, vigorous habit, and thus overcome a difficulty which now exists with many of the best fruits, namely, a weak, straggling growth. Others are constitutionally wayward and unhappy in their growth, like Beurré Bois, so as to render them scarcely obtainable from our nurseries. For instance, instead of trees with the feeble wood of the Winter Nelis, we could have the same fruit from a tree like the Doyenné Boussock, or Buffum, the former of which, in Europe, attains the height of fifty to sixty feet, and here both are scarcely less vigorous or hardy. This is only to be obtained by the choice of parent varieties to breed from, one of which, at least, possesses like vigorous habits.

*To be continued.*

## EDITOR'S TABLE.

### To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

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THE LAST NUMBER FOR 1862.—The present number is our last issue for the current year. We hope our readers will bear this in mind, and renew their subscriptions at the earliest possible moment, so that we may mature our plans for the coming year. Our club rates present great inducements for getting the HORTICULTURIST at a low price, which should not be overlooked by our old subscribers in renewing their subscriptions. It is just as easy to send on a dozen names as one, and we think a good deal better. Let each old subscriber, therefore, do his best to send us a club. We can promise that each and all shall receive more than the worth of the subscription. These are not the times to dispense with horticultural knowledge and reading. If, in time of peace, we must not forget the arts of war, neither, in time of war, must we forget the arts of peace.

SEEDLING GRAPES.—Among the seedling grapes sent to us was one (not yet noticed,) which may well be singled out for its excellence. The bunch is compact, large, and shouldered; the berry is also of good size, equaling that of the Isabella. In quality it resembles somewhat the Catawba, but is very much sweeter, with a decided vinous flavor. The flesh is juicy, tender, and melting. It has a thin and tender skin. In addition to all this, it is an early grape. The color is a dark claret, with a heavy bloom. Our convictions of its merit are decided; we esteem it above the Catawba. It is so distinct as not to be confounded with any other grape. We have named it after the intelligent amateur who originated it.

REMITTANCES.—Will our subscribers, advertisers, &c., please send us U. S. Postal Currency, on which we will pay the premium, or else send us *new* three cent stamps only for all fractions of a dollar. For other sums, send us U. S. Treasury Notes, or a draft on New York, less the exchange.

FRUIT RECEIVED.—To Mr. Maece, of Newburgh, we are indebted for a box of very fine Delaware grapes. We tried to keep them, but it was no use.—

To some friend at Springfield, Mass., (name unknown,) we are also indebted for very fine Delaware grapes. We wish he would discover himself, so that we might thank him.—From Connecticut we received some very large and beautiful Flemish Beauty Pears; in all respects excellent. The letter accompanying them was mislaid, and we can not recall the name. The hope of doing so has prevented an earlier acknowledgment.—We have also received many samples of grapes and pears from other parties, all of which, we believe, have been acknowledged in other ways, according to request.

CATCHING A TARTAR.—Our printer last month, (p. 516, line 2 from bottom,) caught a Tartar; but a close examination proves that it was only a *taster*. He had probably heard of tartar being used in wine-making, or that Tartars were fond of wine, or something of that kind; but the reader will please make the correction.

THE AMERICAN POMOLOGICAL SOCIETY.—We have received from President Wilder the accompanying circular, to which we give place with the hope that it may aid the Society in hastening the publication of the proceedings of its last session.

"The undersigned, President of the American Pomological Society, congratulates the cultivators of fruit and the public generally upon the gratifying progress which the science of Pomology has made in our country. This advance is mainly to be attributed to the establishment and influence of Horticultural and Pomological Societies. Prominent among these is the American Pomological Society, embracing, as it does, within its organization all the States and Territories of the Union, the Canadas, and the Eastern British Provinces. This Association held its Ninth Session in the city of Boston, during the last month. The attendance was large, embracing nearly two hundred delegates and members, and in which fourteen States and Territories were represented. The contributions of fruit were numerous, and the discussions of a highly interesting character. These, like the former proceedings, are to be published in the Volumes of the Society, and in which will also appear the New Catalogue of Fruits, together with a list of the various States and districts to which they are best adapted.

"All persons who are desirous of obtaining these Transactions, are respectfully solicited to become members of the Society, by forwarding to Thomas P. James, Esq., Treasurer, Philadelphia, or the undersigned, at Boston, the requisite fees. Ten dollars constitute a life and two dollars a biennial Membership. Life members will be furnished, as far as possible, with the back volumes of the Society's Publications.

"Persons desirous of responding to this Circular will please do so immediately, that their names may appear in the forthcoming volume.

"MARRSHALL P. WILDER, President."

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## Correspondence.

Winnetka, Ill., Nov. 10th, 1862.

P. B. MEAD, Esq.,—*Dear Sir*,—I wish to inquire if there is to be found in New York, glass especially designed for a cold grapery; and if not, what kind would you recommend, and of what size for fixed sash?

I design to build a grape house 12 feet by 50, with rafters 10 inches apart;

front sash 3 feet; rear wall 12 feet, with cut off peak with ventilators. Are the above good proportions for a house of that size?

An answer to these queries in the next number of the **HORTICULTURIST** would greatly oblige one, and perhaps many old subscribers.

[There is glass in New York specially adapted to graperies. We have lately been using double thick glass of American manufacture which is but very little inferior to imported glass. The price is nearly a half less. Glass has advanced 20 per cent. within a few weeks past. The size that we now invariably use for the top is 8 by 10 inches. We do not like the form of your house, unless there be special reasons for it. We prefer a double pitch to a single pitch; besides, the first is cheapest. There is no beauty in a single pitch. 20 by 30 feet would give you the same number of square feet, would look very much better, and require less labor to take care of it. 20 by 50 feet would give you a still better proportioned house. From the floor to the peak should be about 12 feet. The side sashes should be 3 feet 3 inches to accommodate glass most readily bought. The rafters should be 4 feet  $4\frac{1}{2}$  inches apart from their centers. On these put two purlins, and on the purlins the sash bars. For the rafters, 2 by 6 inches will be large enough, if of good sound timber. 3 by 8 will be large enough for the sill, and 3 by 6 for the plate. With the above letter came a club of *eight* subscribers for 1863. That is asking questions to some purpose. Please accept our thanks, and—ask more questions.—Ed.]

MR. EDITOR:—On the 18th of last April, I planted in a cold house just erected, ten foreign grape vines two years old, grown in pots. The canes were small, and had been cut back to about two feet when received.

I planted them in the inside of the house, according to directions in a former number of the **HORTICULTURIST**. As an experiment, I cut from the canes remaining, twelve to eighteen inches of each vine, and planted these cuttings along the inner edge of the border, inside of the house, and protected them with a small layer of moss. (I have had no experience in grape growing, either in native or foreign kinds.)

They were all watered regularly twice a week, with tepid rain water on Fridays and with soap suds on Mondays. All the cuttings have taken root, and six of them had each made a growth of a single stock twelve to fifteen feet in length on the 1st day of September, and the other four produced each a cane of six to ten feet long.

The roots planted were cut back to the lower healthy bud, and on the same day had each produced a cane sixteen to twenty-four feet in length.

On the 1st of September, I pinched off the heads of all the vines to aid in ripening the wood, according to your suggestions. The main canes are now full three-fourths of an inch in diameter of well colored and hardened wood; and the cuttings

are three-eighths to five-eighths in diameter, but not yet so well colored and ripened.

I wish your advice about cutting back the principle vines; also the cuttings; at what time, and what length of cane do you recommend?

What shall I do with those produced from the cuttings? If practicable, I design them as an experiment in semi-dwarfing.

Through the centre of my grape house, lengthwise, are two parallel partitions two feet apart in the clear, dividing the grape border on the front side from the border on the back side, which is designed for small fruit trees.

These partitions are also intersected by lateral divisions about three feet apart, forming boxes two by three feet, and two feet deep, down to the top of the foundation stand of the borders. In these boxes I desire to grow these experimental vines, on the long spur system, and main stems not more than six to eight feet high when fully matured. Is my plan practicable? And when shall I plant the vines home in the boxes? must the roots be pruned at planting? The border is already filled in in the boxes of the same material as the main border.

Any suggestions you may make consistent with the best interest of your indispensable HORTICULTURIST will be gladly received by one of your subscribers at least. What shall I do with the half dead Delaware grape vines I purchased last spring of one of the principal nurserymen in New York?

They were two years old, grown in pots. I planted them with care in good ground, well prepared, and they have been as well cared for as my one year's experience would allow. They have produced each a growth of about two feet, a little slender crooked stock. Would you advise rooting them out, or let them remain for another year's anxiety and disappointment? My other native kinds have mostly made a growth of six to ten feet.

Yours truly, . . . . . SUBSCRIBER.

Orange, N. J., Oct. 14, 1862.

[For a beginner you managed your vines and cuttings very judiciously. You evidently read to understand, and your practice consequently meets with corresponding results. We have a right to feel flattered with the knowledge that our suggestions have been followed with such gratifying success. In regard to the pruning of the vines, the strongest should be cut back to about five feet; they might be left longer, but even with the size of your canes, the future of the vine will be most satisfactory by not allowing them to exceed this length. These canes may be allowed to produce some fruit next year. The pruning may be done at any time during the early part of December; it will not be too late any time before hard freezing weather. A few words, however, in regard to your proposed experiment in "semi-dwarfing." The vines will do very well along the centre of your house for two or three years, or until the front vines make a dense shade. We advise you to make the experiment. In this case, first prune the young vines to from

one to three feet, according to the stoutness of the canes. Take a forked spade, and begin some three or four feet from the vines, to find the ends of the roots; then follow them up very carefully, letting as much earth as possible adhere to the fibres. As the roots are exposed, cover them with a piece of matting that has been wetted, to prevent them from getting dry. After the young vine has been lifted in this careful manner, carry it just as carefully to the box in which it is proposed to plant it. Spread the roots out nicely and evenly, and peg them down, if necessary, first cutting off the ends of the long primary roots, or bending them in a circular form. Next take some fine sandy soil, (without manure,) and sprinkle all over and around the roots till they are covered about an inch; and then with a watering pot with a fine rose throw on just enough water to cause the earth to settle around and under all the roots. If any portion of the roots become exposed, they must be covered in the same way; but no more water must be used than is really necessary to accomplish this purpose. Now throw on two inches more of fine soil, and on the top of this may be put your compost, which will be all the better for having a good proportion of fine muck in it. The soil must be pressed gently, not packed. By taking this trouble you may reasonably look for some fruit on such stout young vines as you have described. We should like nothing better than to help you in this operation. If your cuttings had been grown in pots instead of the border, they could have been turned into the boxes without disturbing the roots, and the results would have been more certain. If you are not successful in lifting the young vines, your proper course will be to cut them down to three eyes, and grow a single cane, waiting another year for fruit. The planting should be done at once, and the roots protected by a covering of manure; but some soil must be put around the cane to prevent the manure from coming in immediate contact with it. A good way is to cover the canes with a few inches of earth before applying the manure. You had better replace your Delaware, provided you get a *good* one; otherwise cut the present one down to a couple of eyes. It will probably give you a good cane next season. We hope the above necessarily brief directions will be of some service to you. They were intended to appear last month.—ED.]













